DOCUMENT RESUME

ED 247 943 IR 050 821

AUTHOR	Hoyt, David R.; Aragon, Ruben
TITLE	Electronic Mail in ARL Libraries. SPEC Kit 106.
INSTITUTION	Association of Research Libraries, Washington, D.C. Office of Management Studies.
PUB DATE	Aug 84
NOTE	108p.; Prepared as part of the Collaborative Research/Writing Project.
AVAILABLE FROM	Association of Research Libraries, Office of Management Studies, 1527 New Hampshire Avenue N.W., Washington, DC 20036 ($15.00 each issue for nonmembers, $7.50 per kit for members).
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Academic Libraries; Directories; Higher Education; Input Output Devices; *Interlibrary Loans; *Library Networks; Library Surveys; *Online Systems; Questionnaires; *Research Libraries; *Use Studies
IDENTIFIERS	Association of Research Libraries; *Electronic Mail

ABSTRACT

The kit on electronic mail (EM) contains results of a January 1984 Systems and Procedures Exchange Center (SPEC) survey on current and planned uses of EM within the Association of Research Libraries (ARL). Questionnaires were distributed to all 117 member institutions. Of the 69% who responded (81), 43% (35) indicated that they now use EM in their libraries. Of the 46 libraries that indicated they do not use EM, 12 noted they are planning to adopt it. In addition to the survey results and background information on EM, the kit contains: (1) a list of more than 20 EM services being used by ARL libraries (ranging from nationwide, well-known services to smaller, more informal services); (2) 11 documents illustrating specific library uses of EM; (3) descriptions of 5 EM services (including CLASS, Envoy 100, ALANET, EDUNET/MAILNET, and BRS); and (4) a short list of selected references. Reprints of two articles, "Electronic Mail in Libraries through Bibliographic Online Vendors" and "Electronic Mail Systems Update," are included. (THC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

spec

July-August 1984

ED247943

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Electronic Mail in ARL Libraries

Kit 106

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Maxine Sitts

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The Systems and Procedures Exchange Center (SPEC) is operated by the Association of Research Libraries, Office of Management Studies, 1527 New Hampshire Avenue, N.W., Washington, D.C. 20036. Telephone (202) 232-8656.

spec

July/August 1984 #106

OMS

Systems and Procedures Exchange Center

ISSN 0160 3574

ELECTRONIC MAIL IN ARL LIBRARIES

The transmission of brief messages, memoranda, newsletters, interlibrary loan requests, and other forms of communication via electronic mail (EM) is an emerging trend in North American research libraries, made possible by the conjunction and widespread availability of telephones, terminals, computers, microcomputers, communicating word processors, and telecommunications networks. To examine the current and planned uses of electronic mail within the Association of Research Libraries, the Systems and Procedures Exchange Center distributed questionnaires to all 117 member institutions as of January 1984. Sixty-nine percent responded (81), with 43 percent of those (35) indicating that they use some form of electronic mail in their libraries.

Respondents identified over 20 commercial electronic mail services while 14 institutions noted they use an in-house or local campus-wide EM system. EM systems ranged from nationwide, well-known services, to smaller, more informal services developed with existing computer hook-ups. Of the 46 libraries that indicated they do not use electronic mail, 12 noted they are planning to adopt it.

Background. Strictly speaking, electronic mail is not a new phenomenon. Its use was first demonstrated by Samuel F.B. Morse in 1838, and the TWX, TELEX, AP and UPI wire services, as well as telefacsimile transmissions, are other forms of EM. However, electronic mail, as the service is now usually described, is independent of the traditional telegraphic equipment. EM today is direct user-to-user communication of typed information transmitted via the intermediary of a host computer system: information that an EM user in one location wishes to send to another is typed into an "electronic address" in a host computer, where it is stored until read by another person. The information may be a brief message, a long manuscript, an interlibrary loan form, a reference inquiry, or any other kind of alphanumeric information so long as the form of information is compatible with the host computer system and the input equipment (usually a dial-up terminal). As most EM services utilize dial-up, time-sharing computer systems, mail can be sent or received from user to user without regard for time zone differences or geographic locations. Because the information is stored in a computer's memory and simply moved from the sender's address to the receiver's address, it is not really "sent" anywhere; all communication is instantaneous.

EM Uses in Research Libraries. Given its relative ease of use and reasonable cost, electronic mail is particularly suited for transferring interlibrary loan requests from one library to another, or for making inquiries about the availability of an item in a branch library or at another campus. Many libraries already are using EM for interlibrary loan purposes. Reference librarians and database searchers also can use EM to forward difficult questions to subject specialists, or to access online information retrieval systems such as DIALOG and BRS. Some EM systems, DIALCOM for example, offer "gateway" connections (i.e. transparent telephone linkages from one system to another without dropping the first) which automatically store output from an online database search in the EM user's electronic mailbox. The results of a database search then can be forwarded to another EM user without hanging up the telephone. And, if the library has worked out proper procedures, the recipient of the database search can forward to the interlibrary loan office a request for a document to be delivered, again through the electronic mail network.

The Systems and Procedures Exchange Center (SPEC) is operated by the Association of Research Libraries, Office of Management Studies, 1527 New Hampshire Avenue, N.W., Washington, D.C. 20036. Telephone (202) 232-8656.

Library managers also use electronic mail in support of administrative services. Committee meetings can be announced and agendas sent out; and minutes can be circulated promptly for comments through the EM network. Some EM services offer calendar scheduling systems to assist with coordinating meetings. EM also is used in some locations to support the budget justification process, an application that is well-suited for large and decentralized operations. By transmitting from microcomputers or word processors into EM networks, remote campus libraries and branch offices can submit budgets and other materials promptly and directly.

From Electronic Mail to Electronic Publishing. As more libraries are connected to EM networks, and when brief messages become long manuscripts, electronic mail becomes electronic publishing. Some EM systems offer only limited text transmission capabilities (e.g. brief messages or fixed format communications such as interlibrary loan requests). Others offer not only the capacity to transmit lengthy manuscripts (such as the text of a journal article or books), but text editing, word processing, and dictionary look-up (spelling) support services as well. These EM features can be used to create and distribute decentralized campus or agency newsletters. Manuscripts of columns, features, bibliographies, or lists of new acquisitions can be created locally, then forwarded to a central editor or publisher for final approval, and distributed throughout the EM network. Information can be routed first through a hierarchy for approval, or laterally to department heads, managers, or branch libraries at other campuses.

To develop this form of publishing, the American Association of Publishers (AAP) has contracted for a major study called the Electronic Publishing Project. The AAP hopes to develop a set of standards for tagging both the bibliographic and textual elements of manuscripts (e.g. author/title data; chapter headings and paragraphs). This should facilitate the electronic transmission and further modification of manuscripts by authors, publishers, libraries, and full text database vendors.

User Attitudes. Libraries everywhere are linking electronically to provide greater service to the public. EM networks are developing rapidly, documents are being published online, and full text databases are becoming available for immediate document storage and delivery. However, experience with EM so far has shown that not all users will be satisfied to receive all their mail, manuscripts, and newsletters in electronic form. They report missing the colorful paper, attractive layout, the photographs, and interesting marginalia that they have come to expect from printed products. The left to right reading of monotonous EM script can never replace the quick scan possible with an analog page, while the out-of-sight storage of EM systems can prove to be out-of-mind and lost to personal memory as well.

Issues and Trends. Academic and research libraries use electronic mail to reach out to new user communities, to speed up the document request and delivery process, and to extend library services into homes and offices. Administrators need to consider the increased demands this extension is likely to place on library staff and facilities. They should also note costs of installing electronic mail. While the charges in most systems are relatively low, as with personal long distance phone calls, they tend to add up. And where downloading from online systems is involved, or where full text is transferred from a vendor's database to a library user's electronic address, copyright issues may surface.

In most libraries, the equipment used for online retrieval will be sufficient for use with new EM systems; however, staff members will require training in EM use. Incompatability between EM systems also should be taken into consideration. No universal standard exists for electronic mail as it does for telephone service and many EM systems cannot communicate with each other. Even if the technical ability exists, for many, procedures are as yet unclear.

The Kit on Electronic Mail (#106, July-August 1984, 100 pages) contains results of the January 1984 SPEC survey, a list of EM services being used by ARL libraries, 11 documents illustrating library uses of EM, descriptions of five EM services, two reprinted articles, and a short list of selected references. SPEC Kits are available mainly by subscription from the SPEC Center, Office of Management Studies, Association of Research Libraries, 1527 New Hampshire Ave., N.W., Washington, D.C. 20036. Individual kits may be ordered for $15.00 each, prepayment required. Orders outside the U.S. and Canada, add $5.00 for parcel post shipping and handling. (ARL members receive SPEC kits for $7.50.)

This flyer/kit was prepared as part of the Collaborative Research/Writing Project by David R. Hoyt and Ruben Aragon, Educational Resources Staff, National Agricultural Library.

USES OF SPEC KITS

The Systems and Procedures Exchange Center (SPEC) is a clearinghouse operated by the Association of Research Libraries, Office of Management Studies that provides a central source of timely information and materials on the management and operations of large academic and research libraries. It facilitates the exchange of knowledge and documents through SPEC Kits, which are distributed ten times each year to ARL members and other interested libraries. The Kits include topically-arranged groupings of unedited primary source documents – selected for their value to administrators and decision-makers – that illustrate a wide range of alternative approaches to specfic issues.

Kit documents come from general membership surveys and from selected libraries contacted directly by SPEC, and most Kits are produced within six months of surveys. The documents' value comes from their variety of ideas, methods, and solutions. They are not viewed as finished products, but rather as points of departure for a library's planning efforts and as stimulants to innovative approaches to problem-solving. As such, Kits do not present answers or prescriptions for any one library; instead they illustrate how selected ARL members are planning for or dealing with particular issues. The worth of any one Kit to a particular library will depend upon the specific topic covered and the library's stage of development in that area.

Materials are selected according to the following criteria:

- Presents an approach of potential value to administrators and decision-makers
- Timely, and dealing directly with the topic under consideration
- Probability of application of ideas or thinking to other library situations
- Illustrative of actual practice, rather than theoretical
- Understandable, readable communication

All together, the materials should provide a range of alternative approaches that complement each other, provide variety, and stimulate comparison and contrast.

Libraries can take advantage of the Kit compilations in a number of ways. Administrators can evaluate the assumptions, methods, and results of other libraries' approaches; compare and contrast them; and use the learnings in their own situations. Library staff members can use the kits as professional development and current awareness tools. Committees and task forces can use them to begin a review of current practices. And the Kits can identify other persons or places to contact for further information. Back-up files in the SPEC office also are available for loan to member libraries. In addition, SPEC will conduct on-demand surveys or analyses geared specifically for a single library.

EVALUATION

Kit Title/Number _____

1. Which uses did the library make of this Kit?

2. Please indicate how useful the Kit was for these purposes.

☐ Very Useful ☐ Quite Useful ☐ Somewhat Useful ☐ Not Useful

3. Do you have suggestions for this Kit or for future Kits?

(optional)

NAME _____

LIBRARY _____

PHONE _____

Please return this form to the SPEC Center, OMS/ARL, 1527 New Hampshire Ave., N.W., Washington, DC 20036.

1/82

ISSN 0160 3582

ELECTRONIC MAIL IN ARL LIBRARIES
SPEC KIT #106 JULY-AUGUST 1984

TABLE OF CONTENTS

	PAGE
SPEC SURVEY RESULTS	
Summary of SPEC Survey on Electronic Mail in ARL Libraries	1
A Selected Listing of Electronic Mail Services	7
LIBRARY USES OF ELECTRONIC MAIL	
Description of two experimental electronic mail services. Massachusetts Institute of Technology. May 1984.	9
Service Statement-Electronic Mail System. Library of Congress.	10
Newsletter articles about BITNET. Columbia University. January 1984, September, October 1983.	12
Memo: Recommended equipment purchases (for EM service). University of California at San Diego. Biomedical Library. May 1983.	21
Electronic Mail Comes to OAC. University of California at Los Angeles. January 1984.	28
Using the CYBER Mail System (partial computer center documentation). Georgia Institute of Technology.	34
[illegible] Mail Guide. Indiana University.	35
Electronic Mail in the Pacific Northwest (press release information). University of Washington. November 1983.	44
National Agricultural Library Expands Use of Electronic Mail, Getting Started on Agricola (news sheets) and USDA/Extension Service Review of ITT Dialcom, Inc. Office Automation Services. National Agricultural Library. January 1984.	48

PAGE

The Utilization of Electronic Mail in the Carnegie-Mellon University Libraries. Carnegie-Mellon. Spring 1984. 58

Description of microcomputer based electronic mail system. Mountain-Valley Library System, Sacramento, California. February 1984. 67

DESCRIPTIONS OF ELECTRONIC MAIL SERVICES

CLASS 69

Envoy 100 74

ALANET 78

EDUNET/MAILNET 84

BRS 89

GENERAL ARTICLES

Electronic Mail in Libraries Through Bibliographic Online Vendors. Reprinted from Online Libraries and Microcomputers. June 1984. 93

Electronic Mail Systems Update. Reprinted from Library Systems Newsletter. April 1984. 96

SELECTED REFERENCES 100

SUMMARY OF SPEC SURVEY ON ELECTRONIC MAIL IN ARL LIBRARIES

1. Does your library now use electronic mail?

YES	NO	NO COMMENT
35	46	

2. If NO, does the library have definite plans to institute electronic mail within the next 12 months?

YES	NO	NO COMMENT
12*	35	

*NOTE : One library responded yes to both questions.

DATE SURVEY DISTRIBUTED : Jan. 84
DATE SURVEY TALLIED : Mar. 84
SURVEY RESPONSES RECEIVED : 81

3. If YES to either question, which services does (or will) the library use?

ELECTRONIC MAIL SERVICES IDENTIFIED IN SURVEY

SERVICE	NOW USING	WILL USE	TOTALS
ALANET	2	7	9
COMET	1	0	1
ONTYME/CLASS	17	12	29
COMPUSERVE	1	0	1
DIALCOM	2	1	3
MCI	1	2	3
THE SOURCE	3	0	3
TELENET	3	0	3

*NOTE : Survey listed ONTYME/CLASS as separate services, but tallied as one.

OTHER ELECTRONIC MAIL SERVICES IDENTIFIED BY RESPONDING LIBRARIES

SERVICE	NOW USING	WILL USE	TOTALS
AT & TS SYSTEM 85	0	1	1
BITNET	1	3	4
BRS	1	0	1
CN/CP CANADA	0	1	1
DIALOG	1	0	1
EDNNET	0	1	1
ENVOY.100	9	1	10
EOS	0	1	1
In-house or campus-wide	14	4	18
INFOTEX	0	1	1
LINX (faxon)	1	0	1

survey results for question 3 continued next page

continued survey results for question 3.

SERVICE	NOW USING	WILL USE	TOTALS
OCLC ILL SUBSYSTEM	3	0	3
RLG/RLIN	12	3	15
TELECOM CANADA	1	0	1
TYMNET	1	0	1
VAX MAIL	0	1	1
TOTALS	74	39	113

LIBRARIES HAVING ONE SERVICE 25
LIBRARIES HAVING TWO OR MORE SERVICES 26

4. Is your library (or will it be) part of a campus-wide electronic mail system?

	YES	NO	NO COMMENT
NOW	27	20	2
WILL BE	17		
TOTALS	44	20	2

5. Where in the library are -- or will - your electronic mail system stations (be) located? Check all applicable.

ELECTRONIC MAIL STATION LOCATIONS IDENTIFIED IN SURVEY

STATION LOCATION	CURRENT	PLANNED	TOTALS
Administrative Office	19	23	42
Director's Office	16	18	34
Interlibrary Loan	26	14	40
Public Affairs Office	4	4	8
Reference Department	20	14	34
Technical Services	23	13	36

ELECTRONIC MAIL SYSTEM STATION LOCATIONS IDENTIFIED BY RESPONDING LIBRARIES

STATION LOCATION	CURRENT	PLANNED	TOTALS
All Units	2	3	5
Automated Retrieval Unit	1	0	1
Branch Libraries	1	2	3
Circulation Unit	1	1	2
Collection Dev. Unit	3	0	3
Div./Dept. Heads	1	2	3
Instruction Office	1	0	1
Library Copy Unit	0	1	1
Library Systems	4	0	4
Network Development	1	0	1
Regional Info. Comm. Exchange	1	0	1
Service Program Dev. Unit	1	0	1

survey results for question 5 continued next page

continued survey results for question 5.

STATION LOCATION	CURRENT	PLANNED	TOTALS
Special Collection	1	1	2
Support Service	0	1	1
TOTALS	126	97	223

A SELECTED LISTING OF ELECTRONIC MAIL SERVICE*

ALANET
Customer Services
50 East Huron Street
Chicago, Illinois 60601
312-944-6780

Bell Canada (ENVOY)
Customer Services
700 Lagauchetiere
8th Floor Section 8 North 2
Montreal, Canada
514-394-0046

Bibliographic Retrieval Services
(BRS)
Customer Services
1200 Route 7
Latham, New York 12110
800-833-4707

CN/CP Telecommunications
Customer Services
740 Notre Dame West
4th Floor
Montreal, Canada 83C3X6
514-395-3644

CompuSERVE
Customer Services
5000 Arlington Centre Blvd.
Columbus, Ohio 43220
800-848-8199

Computer Corporation of America
(COMET)
Customer Services
675 Massachusetts Avenue
Cambridge, Massachusetts 02139
617-492-8860

DIALOG Information Services, Inc.
Customer Services
3460 Hillview Avenue
Palo Alto, California 94304
800-227-1960

Instant Mail (I-MAIL)
Online Computer Library Center
6565 Frantz Road
Dublin, Ohio 43017-0702
614-764-6000

ITT Dialcom, Inc.
Customer Services
600 Maryland Avenue, S.W.
Washington, D.C. 20024
202-488-0550

MAILNET
Networking Activities
EDUCOM
P.O. Box 364
Princeton, New Jersey 08540
609-734-1915

MCI Telecommunications Corporation
Customer Services
230 Schilling Plaza South
Hunt Valley, Maryland 21031
800-624-1010

National School Public Relations
(ED-Line)
Customer Services
1801 North Moore Street
Arlington, Virginia 22209
703-528-5840

---

* Based on responses to January 1984 SPEC survey.

ONTYME/CLASS
Customer Services
1415 Koll Circle
Suite 101
San Jose, California 95112
408-289-1756

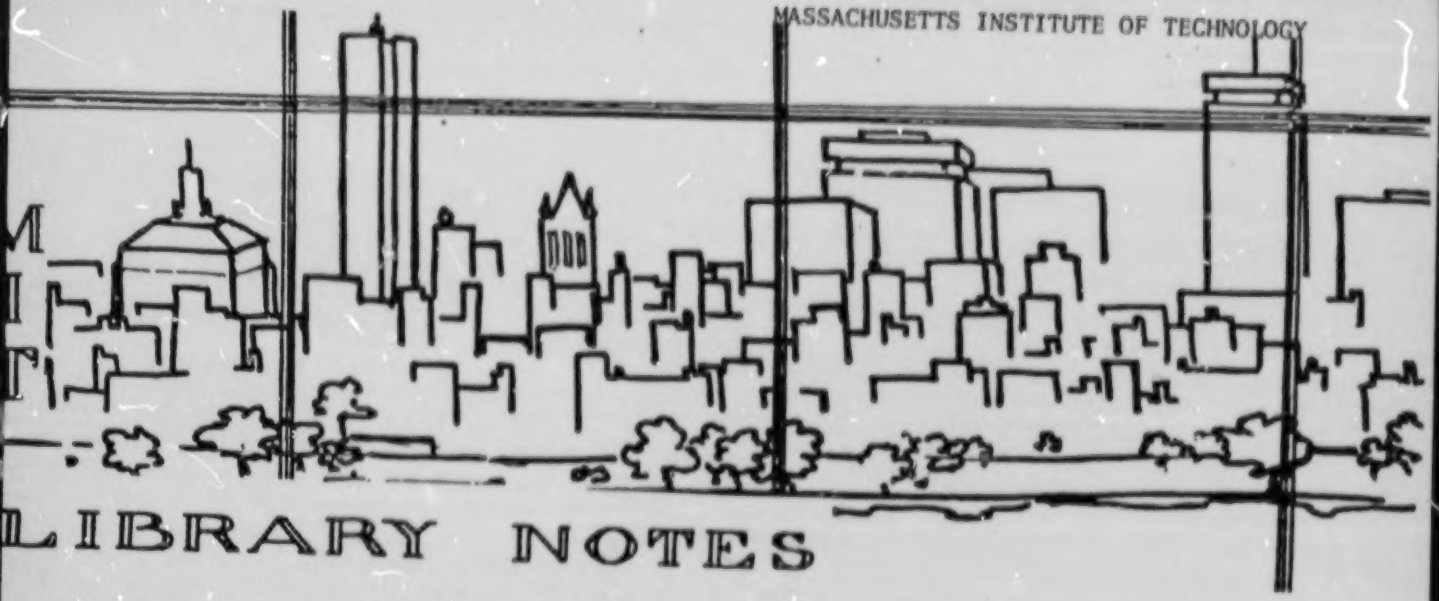
Research Library Group
(RLIN)
Jordon Quadrangle
Stanford, California 94305
415-328-0920

SOURCE Telecomputing Company
Customer Services
1616 Anderson Road
McLean, Virginia 22102
800-336-3366

TELENET Communications Corporation
Customer Services
55 S 5th Street
Philadelphia, Pennsylvania 19106
215-568-4985

TYMNET, Inc.
(a tymshare company)
Customer Services
2070 Chain Bridge Road
Vienna, Virginia
800-336-0149

MASSACHUSETTS INSTITUTE OF TECHNOLOGY



LIBRARY NOTES

198/May 1984

FROM THE DIRECTOR

The MIT Libraries is participating in two experimental electronic mail services: OCLC's I-MAIL and the American Library Association's ALANET. Participation in the OCLC system results from the Director of Libraries' involvement in RLAC, the Research Library Advisory Committee to OCLC. ALANET service is a result of the Director's membership on the NELINET Board of Directors.

Both I-MAIL and ALANET are accessible through a number of communication networks including Telenet, Tymnet and Uninet. Experience over the past few months has indicated that Tymnet provides the most efficient access to both systems.

Participants in the OCLC electronic mail system include the following groups: OCLC management and operating departments; all OCLC cooperating networks; members of the OCLC Board of Directors; members of several OCLC advisory committees; members of RLAC.

In addition to serving as a communication network for the groups listed above, I-MAIL will shortly be expanded to include an electronic publishing function. One of the first full text data bases that will be available will be OCLC news releases.

Participation in ALANET through NELINET will end on June 30, 1984 when the Director leaves the Board. Continued involvement is possible through the MIT Libraries' ALA Institutional Membership and will be considered over the next few months.

If a subscription were continued, it could include online access to the ALA conference program schedules, ALA News Bulletin, ALA Washington Newsline and the Official Airline Guide as well as to the electronic mail system. At a relatively low charge we could also order additional passwords and mailbox addresses for use throughout the system.

Service Statement - Electronic Mail System

Electronic mail is a term used to describe a system which has the capability of transmitting and receiving messages (documents) using an intelligent medium composed of electronic devices (computers, word processors, etc.). Generally, the intelligence is furnished by a computer, the transmission medium is electrical wire or cable, and the input/output devices are terminals, printers, or word processors.

The Library of Congress currently has a large inventory of electronic devices including computers, terminals, word processors, and printers. At the present time, information that is available on one computer or word processor is not available to any of the other computers or word processors. It is highly desireable to be able to access any piece of information on any system, or to send any information from any system, from any terminal at LC. Therefore, an electronic mail, or document delivery, system will be installed in the Automated Systems Office as a pilot program to study the capabilities and to develop the requirements for a Library wide system.

The electronic mail, or document delivery, system that is installed at the Library of Congress for the Automated Systems Office pilot study must provide the following services:

*deliver messages to one or more addressees. Any authorized system user should have the ability to send a message to any and all addressees on the system. A message shall be defined as a document containing header information and text. The maximum length of the message shall be at least one page.

*message delivery acknowledgement. The system should indicate, to the sender, the status of all messages. The status should include both delivery confirmation and whether the message has been read. It would be helpful to be able to send messages which only the addressee can read.

*provide a mailbox for each user. Authorized users of the system must have a unique mailbox address assigned to them.

*interface with 3270 and TTY terminals. It must be possible to send and receive messages from hard-wired 3270-type terminals and dial-up TTY terminals. System access and capabilities should not be restricted by terminal type.

In addition to the mandatory features described above, it would be highly desireable to have the following features:

*electronic file cabinet. This feature will allow for the storage of messages, memos, notes, and any other document in either a public or a private file.

*mailbox address directory. An online directory which would list the mailbox address for each user.

*conference room scheduling. This feature would allow system users to determine the availability of conference rooms and to make reservations for their use.

*buck slip. A facility for obtaining authorizations and approvals for documents.

*ease of use. The system should be designed for use by non-technical personnel. The commands should be English-like and convey meaning to the user where possible. The command structure shall be unambiguous and not contain similar commands for different features.

*response time. Message delivery and response confirmation should be less than ten seconds under normal conditions. System difficulties with regard to message delivery should be brought to the attention of the sender.

*security. A security system to bar unauthorized users would be advantageous. This security system should work in conjunction with the overall security system being implemented on the mainframe.

*alternative distribution system. Hardware and/or software problems should be brought to the attention of the sender along with the estimated availability time. Alternative distribution paths should be stated when the primary path is blocked.

The following features are also desireable:

*message forwarding. This allows an addressee to forward a message to a third party, and, if desired, append a note to the original message.

*broadcast messages. This allows a user to send a message to all the mailboxes in the system. This type of message would not require the message delivery acknowledgement feature.

*bulletin board. This would allow a user to place a message into a public file, with some perishability information, where all system users could browse at their convenience.

*calendar. This capability would allow meetings to be scheduled without the need to establish contact with all the interested parties.

*reply reminder. A facility which would display all outstanding replies for each user. Replies that are overdue could be highlighted.

*scratch pad. A facility which permits each user to have a private file where notes, reminders, and other informal material could be stored.

*electronic staple. This would allow users to combine several documents from the various available facilities of the electonic mail system into one message.

	1.00	11	36.7	37.9
	.	1	3.3	MISS
		--	----	-----
	TOTAL	30	100.0	100.0

VALID CASES 29 MISSING CASES 1

One exception to the propagation of missing values in transformations is the COUNT command. See section 6.32-6.33 of the SPSSX User's Manual.

Words of general advice: (1) Read the SPSSX User's Manual before using any numeric (or string) expressions to transform data. (2) Know your data, i.e., know the frequencies of your raw data and any transformations. (3) Make some simple, sample runs on your data to make sure missing values are being handled the way you expect.

NOTE: SPSSX is a trademark of the SPSS Inc. of Chicago, Illinois, for its proprietary computer software.

Sue Zayac
User Services

New Allocator Service Machine

As of January 1, 1984, a new Allocator Service Machine is on-line. The changes include a new subcommand, CANADD for canceling ADDDISK requests before they become available on-line. The QLINKS and TDISK subcommands have been removed. A read password is no longer needed for the DROPDISK subcommand. Most Allocator messages providing information have been removed.

When allocating a MSS minidisk, the BACKUP or NOBACKUP option must be specified for the minidisk to be successfully assigned. There is a price difference between the minidisk allocated specifying BACKUP or NOBACKUP.

BACKUP states that CUCCA will make every reasonable effort to maintain a timely and accurate backup of your MSS minidisk. CUCCA is not liable for any direct or indirect damages if a backup is defective or does not take place. The final responsibility for the integrity of the data stored on any device at CUCCA is with the owner of the data. Please consult the "CUCCA Guide to Facilities" for further information about liability and hardware/software support.

NOBACKUP makes clear that CUCCA will not backup your minidisk, and the user has sole responsibility for backing-up the data on that minidisk.

Help is available on-line via the ALLOCATE exec. Also, a new technical note may be picked up in SSIO, or may be read on-line with INFO. To get a list of valid Allocator subcommands type:

```
ALLOCATE Help ?
```

To get help on a particular subcommand type:

```
ALLOCATE HELP subcommand
```

Frank P. Esposito
User Services

NETWORK NEWS

BITnet News

New BITnet nodes are:

UDCVM	University of the District of Columbia 4341-2 running VM/SP.
AUVM	American University VM.

BITnet Programmers Meeting

As mentioned in the last NEWSLETTER, a technical meeting of programmers from the BITnet membership was held on December 5 at Columbia. About 40 people attended from as near as City College and as far as Berkeley, California and Haifa, Israel. Topics of discussion included: RSCS security, interfaces for non-IBM equipment such as VAX/VMS and VAX/UNIX systems, electronic mail and the Mailer service machine distributed by Columbia, gateways to other networks, KERMIT distribution over BITnet, and a network FINGER server.

* Connecting VAXen to BITnet

Software is available from Penn State University to connect DEC VAX computers running UNIX to an RSCS network like BITnet. Joiner Associates, Inc. also distributes a similar package for VMS systems. The VMS package was developed at Penn State and is available at substantial discount to BITnet members.

Both packages, called UREP(UNIX RSCS Emulation Program) and J-net, respectively, make a VAX emulate a VM RSCS node: file transfer, interactive messages, and various query commands are supported. Additionally, J-net interfaces to DECnet and can make DECnet-connected VMS systems look like RSCS nodes.

If your department is running VAX/UNIX or VAX/VMS and you would like to take advantage of membership in a large national (soon to be international) computer network, please contact Vace Kundakci, CUCCA Academic Systems Manager. Richard Garland, manager of the two VAX/VMS systems at the Chemistry Department, CUCHEM and CUCHMB, will tell you about his experiences with interfacing DECnet and RSCS. CUCHEM is the test site for the J-net DECnet-RSCS interface.

* Mail Gateways

One of the most popular uses of computer networks is the fast and easy exchange of electronic mail. For instance, you can type a letter to a colleague across the country, perhaps including research data or results, and have that letter arrive at its destination within a few minutes.

A mail gateway is an interconnection point between two computer networks. For example, Columbia is the gateway between CCnet and BITnet. Here is a list of networks where gateways now exist, or will shortly:

ARPA — The Department of Defense Advanced Research and Projects Agency network is probably the largest computer network in the country. It is intended for the exchange of information between researchers funded by DoD grants. Several BITnet members are also on ARPAnet, including the Columbia Department of Computer Science. ARPA and BITnet have an agreement to allow mail to be "gatewayed" between the two networks and CSNET.

CSNET — The Computer Science Network is a network of computer science researchers that are not necessarily funded by DoD as the ARPAnet is.

MAILNET — MAILNET is a project of EDUCOM with many of the same goals as BITnet. It is intended as a means of university researchers and administrators to exchange electronic mail. MAILNET is not yet in full operation.

VNET — VNET is IBM Corporation's internal RSCS network of over 1200 machines. A gateway to VNET exists at the City University of New York, CUNYVM, and currently allows access to four IBM research labs: Cambridge, Stamford, Palo Alto, and Los Angeles. The VNET gateway is very restricted and is only available to people who have established a "virtual circuit". The IBM person you want to communicate with is responsible for initiating this circuit.

High Energy Physics Network — This network will soon be accessible via the Stanford Linear Accelerator Center, SLACVM.

USENET — USENET is a network of over 1000 UNIX systems connected with UUCP (UNIX to UNIX Copy). USENET systems at Columbia include the Biology department, the Cancer Center at Health Sciences, and the Seismology department of Lamont Doherty Geological Observatory. A USENET mail gateway exists at Penn State node PSUVAX1.

CCnet — CCnet is our "local" DECnet network that connects the CUCCA DEC-20s, Teachers College, Computer Science, Chemistry, Carnegie-Mellon University, and Case-Western Reserve University.

* Connecting to Rome

A telecommunications link is on order and should be installed within the next three months. This link will connect CUNY to the Rome Scientific Center. There will be links from Rome to Paris, Madrid, CERN (Organisation Europeene poure Reasearche Nucleaire), and Haifa.

* Finger

CUCCA Tops-20 users are familiar with the FINGER command, which allows you to "put the finger on" users on DECnet systems. Richard Garland of the Chemistry department has implemented a FINGER interface on CUCHEM. You can send a FINGER command to CUCHEM from either BITnet or CCnet (it is on both), and you can route the command from there to anywhere on BITnet or CCnet. Most VM systems on BITnet do not yet support FINGER, but most VMS and UNIX systems do. CUCHEM knows which BITnet systems support FINGER and will route the command to those systems. As an example, try this from the IBM systems:

```
.smsg rscs cmd cuchem finger nicho
R;

.sleep

FROM CUCHEM: [CUCS20]
FROM CUCHEM:  NICHOLAS (Kriss Kringle) is
 not logged in.
FROM CUCHEM:  Last logout was Saturday,
 3-Dec-83 3:53AM from PTY #4
FROM CUCHEM:  No new mail.
FROM CUCHEM:
FROM CUCHEM:  Plan:
FROM CUCHEM: Hi boys and girls,
                    . . .
```

Or, from a DEC-20 system:

```
@finger system@psuvms1@cuchem
[CUCHEM]
[PSUVMS1]
PSUECL VAX/VMS, Wednesday, 21-Dec-1983
                                11:55
```

SYSTEM (System Manager) is not logged in.
Mail: (no new mail)

Plan: (no plan file)
Finger Command complete

* Mailer

Mailer is a service machine running on many VM systems on BITnet. It was written at CUCCA and is currently being enhanced to support domain addressing of mail. A domain is an administrative entity such as an entire network or a single university. Domains make it easy to gateway mail onto other networks. An example of a domain address is:

user@Columbia-20.ARPA

".ARPA" standards for the ARPAnet domain. Domains can have subdomains as in:

user@Jade.CC.Berkeley.ARPA

This is interpreted as a machine called "Jade" that is administered by the Computer Center (".CC") of Berkeley on the ARPAnet.

Use of domains significantly simplifies the tables that network software like the Mailer must maintain. In the preceding example, the Mailer on BITnet need only know that there is a domain ".ARPA" that will then decide if it has a subdomain ".Berkeley", and so on. The Mailer need not know if "Jade" is a valid name or not; that is decided by the CC.Berkeley domain.

Mailer is also being enhanced to use the Simple Mail Transfer Protocol (SMTP) to exchange mail with other domains. This is the prevailing method of mail exchange between the networks described above.

Alan Crosswell
User Services

MICROCOMPUTER NEWS

Discounts Available on Wordprocessing Software

After negotiations with software companies, the Computer Center is now able to offer the following wordprocessing software for the IBM PC at a substantial discount:

	Retail Price (approx.)	Univ/School Price
Perfect Writer	$150.	$70.
Perfect Speller	99.	35.
Perfect Calc	99.	50.
Perfect Filer	199.	50.
Perfect Writer/ Speller	249.	105.
Library (includes all 4 of above)	547.	205.

All of the above include disks and manuals. CUCCA will maintain an inventory so that small orders can be filled promptly. For advice and information call Tom Chow, (212) 280-3259, or Sue Zayac, (212) 280-3724.

NEWSLETTER INDEX: VOLUME 15

This subject index for Volume 15 of the NEWSLETTER is designed as a reference tool for users. During 1983, seventeen issues of the NEWSLETTER were published, containing over 100 articles.

Reference copies of all issues are available in the Reference Room, C115 Computer Center. Issues for Volume 15, 1983 include Numbers 1-17:

January 26, 1983	Number 1
February 9, 1983	Number 2
March 2, 1983	Number 3
March 23, 1983	Number 4
April 6, 1983	Number 5
April 20, 1983	Number 6
May 4, 1983	Number 7
June 15, 1983	Number 8
July 6, 1983	Number 9
August 5, 1983	Number 10
September 7, 1983	Number 11
September 21, 1983	Number 12
October 5, 1983	Number 13
October 19, 1983	Number 14
November 9, 1983	Number 15
November 23, 1983	Number 16
December 9, 1983	Number 17

Reference example: 10-9
(August 5, 1983, page 9)

Subject — Vol - Page

A

ADMINISTRATIVE NEWS
Student Employ Tracking System 1-13
Capital Campaign Support 1-14
Block Sizes for Heavily Used Disks . 3-8
CICS Production & Test Systems 5-3
ARGIS General Retrieval System 7-7
Electronic Mail 8-8
Chained Job Scheduler 10-7
Schools Updating Alumni Data 15-3
Office Support Center 17-4

Autodialer for CU20B 5-2

B

BITNET NEWS
1-12, 4-2, 5-3, 7-2, 8-3, 9-2, 10-7, 11-4, 13-4, 14-7, 15-3, 17-3
Systems Accessible Via BITnet 11-5
BITnet Table 11-1

COLUMBIA UNIVERSITY CENTER for COMPUTING ACTIVITIES

October 19, 1983 Volume 15 Number 14

Consulting Schedule 1
Course Offerings 1
Electronic Mail Features — Old and New 1
CUCCA Documentation Directory 3
New BITnet Nodes 7
WordStar 7

GENERAL INFORMATION

Consulting Schedule

The following consultants will be available on these days and times in SSIO. Since the schedule is subject to change, PLEASE CALL THE CONSULTANT'S OFFICE BEFORE YOU PLAN TO VISIT.

Full-time staff's consulting hours:

Tue: Jeff Dennis	9:00 A.M. - 1:00 P.M.
Frank Esposito	1:00 P.M. - 5:00 P.M.
Wed: Sue Zayac	9:00 A.M. - 1:00 P.M.
Thu: Mark Kennedy	9:00 A.M. - 1:00 P.M.
Maurice Matiz	1:00 P.M. - 5:00 P.M.
Fri: Alan Crosswell	9:00 A.M. - 1:00 P.M.
Don Lanini	1:00 P.M. - 5:00 P.M.

Course Offerings

The Computer Centers of Teachers College (CCIMS) and Columbia University (CUCCA) are offering their regular series of non-credit courses this fall. These courses are open to all members of the University Community, including users with current CUCCA project numbers.

A $10.00 registration fee is required per course, payable by cash, purchase order, or a charge to a project number or requisition. Registration forms are available in room 115 of the University Center for Computing Activities, extension 3555, from 9:00 A.M. until 5:00 P.M., Monday through Friday, and at the Black Building at P&S, room 243, 694-3501. Forms are also available at CCIMS, 241 Horace Mann, from 9:00 A.M. until 5:00 P.M., Monday through Friday, 678-3484.

CUCCA COURSES

Introduction to Scribe Section I	Nov 14	Mon 10:00 - 12:00
	Nov 16	Wed 10:00 - 12:00
	Nov 21	Mon 10:00 - 12:00
	Nov 23	Wed 10:00 - 12:00
Introduction to Scribe Section II	Nov 15	Tue 12:00 - 3:00
	Nov 17	Th 12:00 - 3:00
	Nov 22	Tue 12:00 - 3:00

(Held at 304 Hammer Health Science Center, P&S)

CCIMS COURSES

Introduction to SPSS	Oct 24	Mon 3:00 - 7:00
	Oct 26	Wed 5:00 - 7:00
	Oct 31	Mon 5:00 - 7:00
	Nov 2	Wed 5:00 - 7:00
Introduction to RUNOFF	Nov 15	Tue 3:00 - 5:00
	Nov 17	Th 3:00 - 5:00
Introduction to the DECSYSTEM-20	Nov 21	Mon 5:00 - 7:00
	Nov 23	Wed 5:00 - 7:00
	Nov 28	Mon 5:00 - 7:00
	Nov 30	Wed 5:00 - 7:00

DECSYSTEM-20 NEWS

Electronic Mail Features — Old and New

Recently, new features were added to the electronic mail system on the DEC-20 systems.

The latest generation of the mail system from Stanford University, implements Simple Mail Transfer Protocol (SMTP), which offers reliability and uniformity in network and inter-network mail delivery. New automatic mail forwarding features are also available in the latest update of the mail system.

* Simple Mail Transfer Protocol

SMTP queues network mail in a system area until it is delivered to remote network recipients. This way network mail files do not take up too much of the sender's disk space. Usually network mail is delivered within seconds of the time it is sent. However, if it is undeliverable, the mail is kept queued for several days while delivery is retried at regular intervals. The system mailer informs the sender each day a message is still undelivered. Mail which cannot be delivered for several days is finally returned to the sender with an explanation of why it couldn't be sent.

* User mail Forwarding

User mail forwarding allows those with multiple IDs to specify an alternate address for their

mail. You can pick one ID from several of your IDs to receive all mail. See the description of the ROUTE command below for more information on how to set up forwarding.

* The Mail System User Interface - MM

With MM (Mail Manager) on the DEC-20's, you can send, read, and manage your mail, as well as route mail to single users, groups of users, and electronic bulletin boards on your local system and remote network hosts. In addition to sending and receiving mail, MM can manage your existing electronic messages, and can be used to store reminder messages. MM is handy for sending files to other users who are working together on the same file, especially when the other users might be on different machines. For example, both writer and editor can use the same file for a NEWSLETTER article, and send it back and forth for revisions via MM.

MM has a great many built-in help facilities, so that most users unfamiliar with it should be able to run MM, using the help features as they work. First type "help" to the MM prompt. Use the "?" character, and the escape key to get help as you go.

Although MM is a powerful program and contains numerous commands, most users will find that they only need a small subset of the commands to begin. Note, however, that MM has several command levels, depending on whether you've just started the program, are reading some messages, or are sending a message. Some of the commands given below exist at more than one of these sublevels, and depending on your command level at the time, the format of the command can vary slightly. Use the "?" character at various points to find out what response MM wants next in the command.

The following is a description of the basic commands:

. READ

The READ command takes a number of optional arguments which specify what group of messages (of those contained in your mail file) you wish to read. Type "read ?" to list all of the available options. The default READ option (i.e. what you get if you just type "read" by itself) is UNSEEN, which will display sequentially, from the earliest to the latest, all of the messages you have not yet read.

. SEND

The SEND command is used to send mail to other users, either on local systems or on a remote network system. The SEND command prompts you for "To" recipients, "cc", carbon copy recipients, a one line subject for the message, and lastly, the text of the message. After you've typed the text of the message, type either an escape (the key on your keyboard marked ESC or ESCAPE) or a ^Z (control-Z). The escape or ^Z leave you in the send sublevel, allowing you to further edit or otherwise modify your mail before sending it.

. REPLY

The REPLY command is like the SEND command since it sends mail to another user, although it is usually invoked after reading a particular message. REPLY is generally used when you wish to reply to the sender of mail you have just received. The REPLY command fills in the "to:", "cc:", and "subject:" fields automatically, based on the message you are replying to.

. FORWARD

The FORWARD command is used to forward a message already in your mail to another user. You are permitted to add some text as annotation.

. HEADERS

The HEADERS command lets you list some brief information on the messages which currently exist in your mail file: relative message number, the date of the message, the sender of the message, and the subject. Type "headers ?" for more information on the available options.

. DELETE

The DELETE command lets you mark a given group of messages for removal by the EXPUNGE or EXIT command (see below). DELETE takes the same arguments as the READ and HEADERS command, so you can easily mark a group of related messages for deletion.

. UNDELETE

UNDELETE allows you to "unmark" a group of messages that had previously been marked for deletion.

. EXPUNGE

The EXPUNGE command performs the actual removal from your mail file of messages which were marked for deletion with the DELETE command (above). Note that when you EXIT from MM, an automatic expunge takes place.

. EXIT/QUIT

EXIT and QUIT both leave MM and return you to the EXEC. However, EXIT will also perform an EXPUNGE before leaving, while QUIT merely exits MM without attempting to update your mail file.

. BBOARD

BBoard reads in the local system BBoard mail in place of your personal mail file. The GET command is used to read your own personal mail file back into MM after reading some other mail file, such as a BBoard.

. COPY/MOVE

The COPY and MOVE commands both copy a message or group of messages out to the end of a separate file. However, MOVE will also delete the messages from your mail file after moving them.

. FILE-LIST

The FILE-LIST command copies a group of messages out to a file in much the same way the COPY and MOVE do, except it formats them in a way which is more suitable for printing. This command is handy when your mail file gets too large to keep on-line, but you want to keep your messages in printed form.

(continued on p. 7)

. ROUTE

The ROUTE command provides you with a way to specify an alternate machine ID to which mail for the current ID is to be routed. The format of the ROUTE command is "route userid", where userid can be either a local or network ID.

For example, if user COMBW4117X.J-DOE on host CU20C wants to route his mail to COMBW1001-1X.J-DOE on CU20D, he could type:

ROUTE COMBW1001-1X.J-DOE@CU20D

to the MM prompt while logged in on CU20C as COMBW4117X.J-DOE. Thereafter, all mail going to COMBW4117X.J-DOE@CU20C will automatically be routed instead to COMBW1001-1X.J-DOE@CU20D.

✓ * Electronic Bulletin Boards

Many of the machines on CUnet, and some on BITnet maintain an electronic bulletin board facility, where anyone with an ID may post and read messages. You may post and read BBoard messages via MM or the BBoard program.

To post a message on a BBoard using MM, simply send mail to BBoard (or BBoard@host, where host is the name of a remote network system). Within the BBoard program, you may use the POST command. However, MM is better for posting messages, since MM has much more flexible options. Also the BBoard program does not currently allow posting of messages on remote systems. Type "help BBoard" for more information on the BBoard program.

✓ * Which Machines Can You Send Mail To?

The Columbia University computers are on two major networks, CUnet and BITnet, which are accessible to the general user community. CUnet is a DECnet-based network which connects computers at Columbia University, Carnegie-Mellon University, Case Western Reserve University, and soon NYU too. BITnet is a network of both IBM and non-IBM computers which use IBM network protocols. BITnet spans sites too numerous to mention here (type "help bitnet" on any of the DEC-20 systems to find out more about BITnet). Mail can be sent to users on just about any of the machines on BITnet and to any of the DEC-20 sites on CUnet. Mail to non DEC-20 sites on CUnet is not yet implemented, though plans are in the works.

If you don't know the machine ID of a person you wish to send mail to, usually the Finger program can tell you (this is true only on CUnet). If you know the user's personal name, you can try issuing the command:

```
finger lastname@host
  or
finger "lastname,first"@host
```

where "host" is the name of the CUnet system you think the user may be on, and "finger" should give you the user ID of that person. Otherwise, you can try sending mail to Postmaster@host, and if the Postmaster ID is valid on the remote host, someone there will answer your mail. While Finger only works for CUnet systems (and only SOME CUnet systems), the Postmaster ID is a valid ID on many of the BITnet systems. You should try Finger first, and then Postmaster second, if Finger doesn't tell you what you want to know.

Type "help mm" on any of the DEC-20 systems, or use the HELP command within MM itself, to obtain more information on how to use the mail system.

Future articles will discuss more advanced uses of the mail system, management of mail files, customization of MM, and other topics.

Ken Rossman
Systems Group

NETWORK NEWS

New BITnet Nodes

TUCC	Triangle Universities Computation Center MVS/TSO.
DUKE	Duke University MVS/JES2.
NCSUVM	North Carolina State University VM.
NCSU	North Carolina State University administrative OS/VS1.
UNC	University of North Carolina OS/MVT.
SLACVAC	Stanford Linear Accelerator Center Magnetic Calorimeter collaboration [illegible] VAX/VMS. MAC is a collaboration of physicists at the University of Colorado, University of Wisconsin, SLAC, University of Utah, and Northeastern University.

Alan Crosswell
User Services

MICROCOMPUTER NEWS

WordStar

WordStar is an office-oriented word processing program that performs editing and formatting functions on most personal computers. Primarily a full-screen formatting program, WordStar allows you to format text as you type it in, and then easily revise it.

Although some WordStar functions are applicable to academic uses, most of its features are geared to business or office applications. For example, you can create charts and tables using a special tabstop which automatically aligns the decimal points as you type in a column of numbers. Editing these tables is easy with column commands which move only a single column without disrupting the rest of the line.

WordStar can create a composite document from several smaller ones, another advantageous business feature. You can permanently save individual paragraphs and then, using the block commands, create a complete document from these pieces. Also, the availability of concurrent printing in WordStar allows you to edit one file while the computer is printing another.

CUCCA NEWSLETTER SEPT 7, 1983

NOTE: Basic computer concepts and system access will not be covered in the courses. For further information, call (212) 280-3038.

SCSS Slide Show Offered

The Center for the Social Sciences will present a 20-minute narrated slide show, "Introduction to SCSS," on the following days:

Sept. 14, 15, 21, 22

The slide show, intended as a general introduction to SCSS, is free of charge, and will be presented every half-hour between 12 noon and 2 PM in room 801 International Affairs Building.

Instructors are encouraged to send their classes to these sessions. Additional showings may be arranged by calling 280-4579.

Update: 1980 Census Data

Researchers and instructors at Columbia now have access to a greater variety of Census data, especially data relating to the New York metropolitan area. The Data Archive of the Center for the Social Sciences has been appointed an affiliate of the New York State Data Center. As a State Data Center affiliate, DARTS will provide Census data in printed form and on tape to users at the University, and the staff can make customized subsets and reports according to specifications. For further information, please call (212) 280-3038.

IBM NEWS

SPSSX

SPSSX Release 1.1 is now available for testing under CMS.

The SPSSX Technical Note is available free of charge in the file cabinet outside the SSIO Consultant's office. It is also available on-line through the INFO exec. Please pick up a copy of the Technical Note before using SPSSX at Columbia.

Users should also have a copy of "SPSSX User's Guide" (available from McGraw-Hill Book Company for approximately $29.) since SPSSX is an entirely rewritten release of SPSS and not a mere upgrade. Old SPSS programs will not run without at least some editing/rewriting.

Some new features of SPSSX are:

*Disk files are referenced from within the program with a FILE HANDLE command.

*Input data can have a variable number of cards/case, it can be hierarchical or nested data, or it can even repeat data on a single record.

*There is a LOOP command for use with INPUT DATA and COMPUTE commands.

*There are many new numeric functions, such as SUM(arg list), MEAN(age list), and UNIFORM(arg). This last is a uniform pseudo random number generator.

*Alphanumeric variables may be up to 255 characters in length and may be manipulated with string functions.

A number of sample SPSSX programs are on-line. These are demonstration programs provided by SPSS Inc. with some documentation added by CUCCA staff. To look at these SPSSX programs and their LISTINGs, link to the disk:

LINK SPSS 193 593 RR ALL

and then ACCESS disk 593 at a convenient mode.

Some additional information on SPSSX can be obtained by including the INFO ALL and SHOW ALL commands in an SPSSX program.

If no serious problems are encountered, SPSSX will become supported software in mid-September.

Sue Zayac
User Services

NETWORK NEWS

BITnet News

BITnet News, a regular NEWSLETTER column, is intended to keep you up to date on the latest developments of BITnet, a large university computer network in which Columbia is an active participant.

The cover diagram shows the logical interconnections of the computers that make up BITnet. The table on page 10 lists all the current nodes accessible to BITnet users (these include both actual BITnet nodes and other nodes accesible for electronic mail).

. What is BITnet?

BITnet is a network of university computer centers, national research labs, and university-affiliated corporate research departments. The network is composed primarily of IBM computers running VM/370 and connected with IBM's Remote Spooling Communications Subsystem/Networking (RSCS/Networking) product. There are also several MVS systems connected via the Job Entry Subsystem (JES) and a number of DEC PDP-11's and VAX systems running UNIX and VMS. BITnet provides file transfer, including electronic mail, as well as interactive messages between VM (and some UNIX and VMS) systems.

There are currently close to 100 computers on BITnet, a number that has been growing weekly, including CUCCA's four IBM computers (two research 4341's and the

administrative 3031 and 4341) and one of the Chemistry Department's VAXes.

Columbia is also the BITnet electronic mail gateway to CCnet, the DECnet based network of DECSYSTEM-20s, DECsystem-10s, PDP-11s and VAXes that consists of CUCCA, the Computer Science Department, the Chemistry Department, Teacher's College, Carnegie-Mellon University, and Case-Western Reserve University. The gateway allows mail to be exchanged between BITnet and CCnet users with the same ease as that of mail exchange between users on the same computer.

BITnet is administered by joint agreement of the member installations. There are no membership requirements for BITnet other than that of being an educational institution, national research lab, or university-affiliated corporate research department. Unlike networks like ARPAnet, which is restricted to Department of Defense funded research, or CSnet, which is restricted to Computer Science related research, BITnet has no restriction confining its use to any particular area of study. So, if you have colleagues at other BITnet member universities, by all means, look into using it to share data, or send mail or messages. It's faster than the postal service!

. BITserve: Network Services

A central network database service for BITnet is located at the City University of New York central VM system, CUNYVM. The server, BITserve, provides a user directory (similar to a phone book), and a directory of files of general information. Use the CMS BITSERVE exec to access the database or to add yourself to the directory. Type "help bitserve" for more details.

. New Nodes

The following new BITnet nodes have been added as of the last writing:

UMVMA	University of Missouri central facility VM.
UMMVSA	University of Missouri central facility MVS.
UMCVMA	University of Missouri Columbia Campus VM.
UMCVMB	University of Missouri Columbia Campus VM.
UMRVMA	University of Missouri Rolla Campus VM.
UMRVMB	University of Missouri Rolla Campus VM.
UMSLVMA	University of Missouri St. Louis Campus VM.
VPIVM1	Virginia Polytechnic Institute VM.
VPIVM2	Virginia Polytechnic Institute VM.
VPIVAX1	Virginia Polytechnic Institute Unix.
VPIVAX5	Virginia Polytechnic Institute Unix.
YALEVMX	Yale University VM.

Also, Cornell nodes CORNELLA, CORNELLC, and CORNELLD have been combined into CORNELLC (a new IBM 3081).

Alan Crosswell
User Services

Systems Accessible Via BITnet

The table on page 10 lists the current systems accessible from BITnet. Most are actually BITnet nodes, but some are not (notably the CCnet systems and certain "pseudo" nodes such as the UNIX systems under VM). The original version of this table is available from BITserve as file "bitnodes info".

. Types of Systems

VM, VM/SP, etc.	IBM VM/370 operating system, with interactive CMS users on an IBM or compatible mainframe.
MVS	IBM MVS operating system, sometimes with interactive TSO or MVS Wylbur users and batch on an IBM or compatible mainframe.
TOPS-20	DEC TOPS-20 operating system, with interactive users on a DECSYSTEM-20.
TOPS-10	DEC TOPS-10 operating system, with interactive users on a DECsystem-10.
UNIX	Bell Laboratories trademark operating system, with interactive users on a DEC PDP-11 or VAX.
VMS	DEC VMS operating system, with interactive users on a VAX.
RSTS	DEC RSTS operating system, with interactive user on a PDP-11.
UTS	Amdahl Universal Time sharing system, a version of UNIX that runs under VM.
CDC/NOS	Control Data Corporation NOS operating system.
Univac	A Univac computer.

SYSTEMS ACCESSIBLE VIA BITNET

Node	System	Connection	
Boston University			
BOSTONU	VM/SP	RSCS	
Brown University			
BROWNVM	VM/SP2	RSCS	
BROWNCS	UNIX	UREP	
Carnegie-Mellon University			
CMCCTA	Tops-20	MAIL	
CMCCTB	Tops-20	MAIL	
CMCCTC	Tops-20	MAIL	
CMCCTD	Tops-20	MAIL	
CMCCTE	Tops-20	MAIL	
CMCCTF	Tops-20	MAIL	
CMCCRA	RSTS	MAIL	
CMCCRB	RSTS	MAIL	
CMCCVA	VMS	MAIL	
CMCCVC	VMS	MAIL	
CMCSC	Tops-20	MAIL	CS
CMCSPS	VMS	MAIL	CS
CMPHYS	VMS	MAIL	Physics
CMPSYA	VMS	MAIL	Psychology
Case Western Reserve University			
CWRU20	Tops-20	MAIL	
CWR20B	Tops-20	MAIL	
City University of New York			
CUNYVM	VM/SP2	RSCS	
CUNYUTS	UNIX	MAIL	
CUNYJES3	MVS	JES3	
BBADMIN	VM/SP	RSCS	Baruch
BB003	VM/SP	RSCS	Baruch
BKLYN	VM/SP	RSCS	Brooklyn
BMACADM	VM/SP	RSCS	Manhattan
BM002	VM/SP	RSCS	Manhattan
BX001	VM/SP	RSCS	Bronx
CCNY	VM/SP	RSCS	City
HUNTER	VM/SP	RSCS	Hunter
KB001	VM/SP	RSCS	Kingsborough
LEHMAN	VM/SP	RSCS	Lehman
NY001	VM/SP	RSCS	NYC Tech
QB001	VM/SP	RSCS	Queensborough
SI001	VM/SP	RSCS	Staten Island
QUEENS	VM/SP	RSCS	Queens
YORK	VM/SP	RSCS	York
Columbia University			
CUVMA	VM/SP2	RSCS	
CUVMB	VM/SP2	RSCS	
CUVMC	VM/SP	RSCS	
CUVMD	VM/SP	RSCS	
CUUTSA	UNIX	MAIL	
CU20A	Tops-20	MAIL	
CU20B	Tops-20	MAIL	
CU20C	Tops-20	MAIL	
CU20D	Tops-20	MAIL	
CUTC20	Tops-20	MAIL	Teacher's College
CUCS20	Tops-20	MAIL	CS
CUCHEM	VMS	UREP	Chemistry
CUCHMB	VMS	MAIL	Chemistry
Cornell University			
CORNELLA	VM/SP2	RSCS	
CORNELLC	VM/SP2	RSCS	
CRNL20A	Tops-20	?	
CRNLCS	UNIX	UREP	CS
CUMC	VM/SP2	RSCS	Medical Center
George Washington University			
GWUVM	VM/CMS	RSCS	
Harvard University			
HARVARDA	VM/SP	RSCS	
HARVUNXW	UNIX	?	Psychology
IBM Yorktown Heights			
YKTVMT	VM/SP	RSCS	
YKTVMV	VM/SP	RSCS	
YKTVMX	VM/SP	RSCS	
Massachusetts Institute of Technology			
MITVMA	VM/SP2	RSCS	
New Jersey Educational Computer Network			
NJECNVM	VM/SP	RSCS	
NJECNV5	MVS	JES3	
Ohio State University			
OHIOST1	VM/SP	RSCS	

Node	System	Connection	
Pennsylvania State University			
PSUVM	VM/SP2	RSCS	
PSUMV5	MVS	JES2	
PSUPDP1	UNIX	UREP	
PSUVAX1	UNIX	UREP	
PSUVMS1	VMS	UREP	EE
PSUDEC10	Tops-10	UREP	EE
Princeton University			
PUCC	VM/SP	RSCS	
PUCCUTS	UNIX	MAIL	
Rockefeller University			
ROCKVAX	UNIX	UREP	
Stanford Linear Accelerator Center			
SLACVM	VM/SP	RSCS	
Stanford University			
STANFORD	MVS	JES2	
State University of New York at Binghamton			
SUNYBING	VM/SP	RSCS	
University of California at Berkeley			
UCBCMSA	VM/SP2	RSCS	
UCBCMSB	VM/SP2	RSCS	
UCBUNIXA	UNIX	?	
UCBUNIXB	UNIX	?	
UCBUNIXC	UNIX	?	
UCBUNIXD	UNIX	?	
UCBUNIXE	UNIX	?	
UCBUNIXF	UNIX	?	
UCBUNIXG	UNIX	?	
UCBJADE	UNIX	?	
University of California at San Francisco			
SFASYS	VM/SP	RSCS	
SFBSYS	VM/SP	RSCS	
UCSFVAXA	UNIX	UREP	
University of Connecticut			
UCONNVM	VM/SP2	RSCS	
UCONNMV5	MVS	JES2	
University of Illinois at Chicago Circle			
UICVM	VM/SP	RSCS	
UICMVS	MVS	JES2	
University of Illinois at Urbana-Champaign			
UIUCVMD	VM/SP	RSCS	
UIUCVME	VM/SP	RSCS	
UIUCNOSA	CDC/NOS	?	
UIUCNOSB	CDC/NOS	?	
UIUCUXC	?	?	
University of Maine			
MAINE	VM/SP	RSCS	
PORTLAND	VM/SP	RSCS	
University of Maryland in College Park			
UMDA	VM/SP	RSCS	
UMDB	VM/SP	RSCS	
UMDC	VM/SP	RSCS	
UMD2	Univac	?	
University of Missouri			
UMVMA	VM/SP2	RSCS	
UMMVSA	MVS	JES	
UMCVMA	VM/SP2	RSCS	Columbia
UMCVMB	VM/SP2	RSCS	Columbia
UMRVMA	VM/SP2	RSCS	Rolla
UMRVMB	VM/SP2	RSCS	Rolla
UMSLVMA	VM/SP2	RSCS	St. Louis
University of Rochester			
UORVM	VM/SP	RSCS	
University of Toledo			
UOFTO1	VM/SP	RSCS	
Virginia Polytechnic Institute			
VPIVM1	VM/SP	RSCS	
VPIVM2	VM/SP	RSCS	
VPIVAX3	VMS	?	
VPIVAX5	VMS	?	
Yale University			
YALEVM	VM/SP2	RSCS	
YALEVMX	VM/SP2	RSCS	
YALEMVS	MVS	JES2	
YALEADS	VM/SP2	RSCS	

SAN DIEGO: THE BIOMEDICAL LIBRARY
LA JOLLA, CALIFORNIA

May 23, 1983

To: Phyllis Mirsky

From: Mary Horres MH

Subject: Recommended equipment purchases-- to be financed by conversion of recurring equipment expenditures

I recommend the following realignments in current equipment expenditures for the Biomedical Library:

a) Removal of the TWX-- The teletypewriter, which is leased equipment, is used solely for interlibrary loans at an annual cost of over $2500 ($1,452 for communications and $1,068 for equipment rental--See Attachment 1.) It is inefficient because it is single-purpose equipment and very slow--only 10 characters/second transmission speed.

b) Purchase of equipment for electronic mail and subscription to CLASS Ontyme.

Equipment to access the CLASS Ontyme electronic mail system for interlibrary loans would require the purchase of a CRT, an EPSON printer or equivalent, and a Messenger storage and editing modem. (Total cost of approximately $4,000). Attachments 2 and 3 detail the annual cost of ILL via electronic mail and compare that cost to the current method of using TWX and OCLC for journal requests. Use of electronic mail is much more cost effective and, in addition, the terminal can be used for online searching and other purposes when it is not being used by ILL staff.

The resource libraries in the Pacific Southwest Regional Medical Library Service are in the process of converting to electronic mail for ILL as a more efficient, cost effective means of communication, and the Biomedical Library would like to join with UCLA as a leader in this effort. The National Library of Medicine has agreed that the Biomedical Library will be the site for its experiment with the CLASS Ontyme electronic mail system to transmit ILL requests to NLM. In addition, the San Diego health sciences libraries are also planning to convert to Ontyme for interlibrary loan services.

c) Removal of the OCLC terminal currently used solely for ILL and Reference Services to release resources for:

(1) a 1200-baud portable terminal and an auto-dial, auto-logon modem for the Reference Desk at Biomed ($2350 total cost -- $1600 for the TI 785 and $750 for a NEC modem or equivalent).

(2) a 1200-baud terminal for the Medical Center Library. The Texas Instruments KSR 820 terminal currently serving as a slave printer for the OCLC terminal can be used by the Medical Center Library as a stand-alone terminal with the addition of a Bell 212-A compatible modem (about $600). Their present 300-baud terminal is seven years old, and it is inefficient for printing citations online.

The work presently accomplished on this OCLC terminal will be

(continued)

UNIVERSITY OF CALIFORNIA—(Letterhead for interdepartmental use)

accommodated through several measures. With the retrospective conversion project in Technical Services largely completed and the anticipated introduction of BLIS, time will be available on one of the two terminals in Technical Services for use by ILL staff on a scheduled basis to process loan requests for monographs. Borrowing requests for journal articles will be handled via electronic mail (average unit cost $.25) rather than OCLC ($1.40 per loan). Reference staff will have dial-up access to OCLC using their new portable terminal at the Reference Desk.

The reallocations of resources outlined above will significantly upgrade the equipment at both the Biomedical Library and the Medical Center Library and, in the long run, save money for the library. The pay-off schedule for the purchase of the recommended equipment is summarized in Attachment 4. I would like to implement these changes as soon as possible with the removal of existing equipment being coordinated with the arrival of the new.

Please call me if you have any questions or need additional information.

Enclosures

UNIVERSITY OF CALIFORNIA—(Letterhead for interdepartmental use)

Current Western Union TWX Costs

	Access Charges	Equipment	Tolls	Total
per month	$44	$89	$77[1]	$210
per year	$528	$1,068	$924	$2,520

[1]Monthly average based on average of actual costs 7/1/82 through 1/31/83

Estimated Annual Costs of ILL via Electronic Mail (EM)

Cost per request via EM (Borrowing or lending):

Communications	$.14
Fees	.05
Telephone	.06
	$.25

Total Annual Recurring Costs for EM:

Transmission of requests	$ 323.68
Receipt of requests	282.80
Fees	220.00
Telephone	240.00
	$ 1066.48

EM Communications Costs

a. Cost of receiving requests:

2,020 requests x $.14 avg. unit charge[1] = 282.80

b. Transmission of outgoing ILL requests and referrals:

2,312 requests x $.14 = 323.68

EM Subscription/Service Fees

Annual fees = $100 subscription + $120 service fees $220.

Average fees per request ($220 ÷ 4,332 requests for 1982/83) $ .05

Local Telephone Costs to Access EM:

Annual telephone cost	$240.
Average phone cost per request	$ .06

Outgoing requests:

sent out via TWX 1982/83	1,638
borrowing requests for journal articles 1982/83 (currently sent via OCLC)	674
Total outgoing	2,312
Incoming requests received via TWX 1982/83[2]	2,020
Total requests	4,332

CONTINUED

[1]Calculation of average unit charge:

Transmission charge:
$.25/1000 characters sent, received, or input
Given: 500 characters per request, then
Cost: $.125 per request

Connect time: $3.00/hour ($.05/minute)
Given: .27min./request, then
Cost: $.0135

Total average charge = $.14

[2]Number of requests for 1982/83 based on doubling the actual counts for July - December 1982. Portion received by TWX based on 2-month count which indicates 26% of total requests received (7,770) are via TWX.

Annual Cost Comparisons for ILL Journal Requests

	Electronic Mail[1]	TWX/OCLC
Communications/Fees	$1,067	2,396[2]
Equipment	$ 800[3]	$1,068[4]
Total	$1,867	$3,464

[1]Cost figures for electronic mail are based on converting present TWX requests to EM plus handling borrowing requests for journals on EM rather than OCLC.

[2]Includes $1,452 for TWX and $944 for OCLC online systems charges for borrowing requests for journals at $1.40 each.

[3]Equipment costs for CRT, printer, and Messenger storage modem are approximately $4,000. Amortized cost over 5 years = $800 per year.

[4]Annual rental charges for TWX only; there is an additional recurring cost of $3,006/year for the OCLC terminal not included here.

Pay-Off Schedule for Equipment Purchases

I. Equipment for electronic mail:

1983/84	1984/85	
$4,070	-----	costs
$2,400[1]	$2,400	savings accrued
-$1,600	+$ 800	Balance

[1]Savings based on $1,068 from TWX lease and difference between annual communications charges for TWX/OCLC and electronic mail ($2,396 - $1,067 = $1,329). Total of $2,397 rounded to $2,400.

II. Terminal and modems purchased from OCLC terminal removal:

1983/84	
$3,063[1]	savings accrued
2,950[2]	costs
+$ 113[3] (-$160 for removal)	Balance

[1]OCLC terminal charges for 1983/84 are $255.25 per month as follows: system service fee $26.50, maintenance $43, telecommunications $106, remote modem $79.75. ($255.25 x 12 = $3,063)

[2]Costs include $2,350 for reference dask terminal with its modem and $600 for the modem for the terminal to be relocated to the Medical Center Library

[3]This is essentially a break-even situation for the first year because no costs have been estimated for use of OCLC via Tymnet. These costs include $48/year for the Tymnet password and $9/hour connect time. Connect time should be minimal for reference use since OCLC use is limited to verification of citations and holding libraries.

special features

Electronic Mail Comes to OAC

by Chris Thomas
Manager, OAC System Support

Within a few weeks, OAC's new electronic MAIL service will become available to users. This article describes the service and outlines some future plans. We are quite enthusiastic about the MAIL service, and believe it to be an important new facility for our users. System bulletins will announce the exact date when MAIL will become available.

Although we are making MAIL available, we do not consider it finished, and we expect to be adding new features and making improvements during the coming months. OAC's systems programming group actively solicits comments and suggestions from our users on the future directions and requirements of our electronic MAIL service. You may do this by filling out a Feedback Loop form (available upon request from an OAC operator) or by coming in to the User Relations office (Room 4302 MSA) and telling us your needs. You may also address comments via the MAIL system to Userid CSMSCST.

Services Overview

- TSO -- A new TSO command, MAIL, allows TSO users to send and receive MAIL. This command operates in line mode and provides basic MAIL functions. Future plans include the development of a full-screen MAIL processor for TSO.

- WYLBUR -- Several commands have been added to WYLBUR to interface with the MAIL service. These commands allow the WYLBUR user to utilize the full power of the active file for the creation, viewing, and listing of MAIL.

- BITNET -- BITNET is a rapidly growing computer network connecting many major U. S. Universities such as Harvard, Princeton, Yale, Illinois, Stanford, and UC Berkeley. We plan to connect OAC's MVS and VM systems to this network in January making it possible for UCLA's faculty and researchers to exchange electronic MAIL and documents with colleagues at other BITNET sites in a

matter of minutes. We expect BITNET to become an important adjunct to OAC's local services. A primary consideration in planning of the MAIL service was its ability to interface to other wide-area MAIL networks such as BITNET.

- VM -- We intend to provide MAIL facilities on VM which are equivalent to those on MVS.

- ARPA -- We are investigating a connection to the DARPA Internet mail system for those users who are eligible to use the Internet.

- UNIX -- We are installing software to provide networking between our UNIX systems and our VM and MVS network. This will allow the exchange of both MAIL and data files between UNIX and the other systems in our network, and over BITNET. We are also planning to offer support to DEC VMS users who wish to participate in the network.

The remainder of this article discusses how to use the MAIL service from WYLBUR or TSO, and presumes you are modestly familiar with one of the two. If you have never used either system and wish to use MAIL, attending one of OAC's introductory WYLBUR courses would be an excellent way to begin. Don't, however, get the idea that MAIL is difficult to use. We are proud of the speed with which our non-technical staff have made MAIL an integral part of their daily work routine.

WYLBUR MAIL Facility

In WYLBUR, using MAIL is like using RUN and FETCH. For example, to run a job, you COLLECT a file, RUN it, and use LOCATE and FETCH to trace and retrieve your output. Similarly, to send mail, you first COLLECT it into your active file. Then you enter the command:

```
MSEND
```

To see what mail is waiting for you, enter:

```
MLOCATE
```

To read mail sent to you, you use the command:

```
MFETCH nn
```

where *nn* is an index number of a message which has been sent to you. When you are sent MAIL while logged onto WYLBUR, WYLBUR notifies you with a message

```
MAIL WAITING FROM aaaaiii
```

where *aaaaiii* is the Userid of the person who has sent you the mail. Each time you logon to WYLBUR, WYLBUR will display MAIL WAITING if you have any unviewed MAIL.

The following commands are available (standard WYLBUR syntax conventions apply and the first three letters of a command name are sufficient):

NOT included in kit

Cyber mail documentation
for Library use

Georgia Institute of Technology

USING THE CYBER MAIL SYSTEM

The Cyber MAIL system enables you to send electronic mail to other Cyber users. All librarians and a few other staff members have Cyber user numbers; a list of these is attached. Many of Tech's faculty and staff use the MAIL system regularly, and a directory of their user numbers will be available soon.

I. LOGGING ON TO CYBER

A. Connecting via the MUX: if your terminal is hardwired to the Cyber via the "mux" or multiplexor, all you need do is turn on the terminal and hit the character A until you receive the log on prompt.

Connecting by telephone line using a PC: if you are using a micro with a Hayes modem, make sure that the phone line is connected to the modem and that the power to the modem is turned on. Insert COM diskette into IBM PC after receiving the A > prompt and type COM (return). Depress function key 3 and select either the 1200 or 300 baud line to GT Cyber. After receiving the "connected" message, hit the character A until you receive the log on prompt.

Connecting by dialing up using an acoustic coupler : Turn on the terminal and modem. Dial 2131 (300 baud) or 2111 (1200 baud) and place the receiver in the acoustic coupler when you hear the tone. Then hit A until you receive the log on prompt.

If you don't know which option applies to your terminal, call Systems & Data Base (ext. 4518 or 4536).

B. Cyber will prompt you to begin logging on :

Cyber will say:	You reply:
FAMILY	[carriage return]
USER NO.	[your user no.]
PASSWORD	[your password]

You will not see your responses on the terminal screen until you are successfully logged on. If you make a mistake in logging on you'll receive an error message. Try logging on again. If you fail after repeated tries, call Systems & Data Base.

When you are successfully logged on, you'll receive a slash, which means you may enter the mail system. Or you may get a display of news. If you don't want to see the news, you can stop it by hitting the S key as the news begins to display.

II. USING THE MAIL SYSTEM

A. **Receiving mail**: If you have mail, Cyber will say

YOU HAVE MAIL

To read your mail, type in after the slash:

MAIL

Your messages will be displayed on the screen. Remember they will be deleted from the MAIL file after they display.

B. **Sending mail**: After you log on and get the slash, type in

MAIL,[usernumber] as in **MAIL,LI401QW**

The user number is the number of the person to whom you want to send mail.

You will then be given a question mark which is your signal to start inputting the message. Start typing your message.

When you come to the end of the first line, hit your carriage return key. A question mark will appear at the beginning of the next line. Begin typing after the question mark and hit "new line" t the end of the line, etc., until you have completed your message:

When you have completed your message, hit your carriage return key. The computer will supply another question mark; hit carriage return again. The computer will then give you a slash, which means your message has been delivered. You may enter another mail message at this point or log off.

III. LOGGING OFF

To log off, simply input **BYE** following a slash.

IV. SOME GENERAL RULES

Messages must be shorter than 250 lines.

You may use both upper and lower case.

If a MAIL message is not accessed by the addressee, it will be deleted 14 days after being input into the system. (You may change that period of time with the **RT** option described below).

You may send "carbon copy" mail, which means sending the same message to several other persons automatically. For details, see the **CC** option below

You may enter a code which enables you to know if a mail message you sent has been received. Use the **RR** option described on p. 3.

Change your password often! (see next page).

Check your mail at least once a day!

V. THE CC OPTION: SENDING MAIL TO MORE THAN ONE PERSON

If you regularly send messages to a specific group of people, you can establish a file in the Cyber containing the user numbers of those people. This will enable you to send the same message automatically to each person on the list. See Systems & Data Base for help in establishing files of user numbers, or follow the instructions below.

First, you must create a TED file with all user numbers wanted. To do this, log on to your user number;

Cyber will say:	You will reply:	
/	TED,[filename]	(supply a filename - anything up to 7 characters in length)
0?	hit the carriage return key	
1I?	begin inputting user numbers, hitting carriage return after each one, up to 250 user numbers	
2I?, etc.		

After inputting the last user number wanted in your TED file, hit carriage return so that the capital I after the line number (which indicates the Input mode) is deleted. Cyber will respond with the line number and a question mark, as given below.

Cyber:	You:
[line number]?	END
/	SAVE,[filename]

When you want to send CC mail to those user numbers: log on (if you aren't already), and type after the slash

GET,[filename] Cyber will give you a slash; type in

MAIL,CC=[filename]

Whatever message you input will be sent to all users in your TED list. This list may be modified if needed. Contact Systems and Data Base for instructions concerning changing your TED list, or for help in establishing TED files.

VI. THE RT OPTION: CHANGING THE RETENTION PERIOD OF MAIL MESSAGES

If you don't specify otherwise, mail will wait for its intended recipient for fourteen days. At the end of this time it will be automatically deleted. You may alter this retention period by using the RT option.

Example: MAIL,LI401AB,RT=5

This would cause unaccessed mail to be deleted after five days.

The maximum possible time using this option is 21 days. The minimum, 1 day, will remove the mail message at midnight the next day.

VII. THE RR OPTION: HOW TO DETERMINE IF A MESSAGE HAS BEEN RECEIVED

If you want confirmation that a message you sent has been received, you may use the RR option. To do this, when sending a MAIL message, add RR=1 to the "address".

Example: MAIL,LI401MR,RR=1

After the mail is received by the addressee, you will receive a mail message informing you that it was received.

VIII. PASSWORDS

You should change your password at least once a quarter. Change it immediately if you suspect that an unauthorized person may have learned what it is. A password should be 7 characters or less. You may use any combination of letters or numbers.

You change your password by logging on; then, when the computer gives you a slash, type in:

PASSWOR,[oldpassword] = [newpassword]

example:

PASSWOR,SHEBANG = PUPPET

Yes, it's passwor, not password.

Contact Systems & Data Base if you forget your password.

IX. DELETING MESSAGES

It is possible to delete messages you have already sent, but only if the message has not been retrieved by the receiver. Complete the following steps to delete a message.

Enter after a slash

MAIL,CT = LI401XX (LI401XX being the user number you sent mail to)

The Cyber will respond with the following data, followed by a slash

SEQ. NO.	TO	FROM	DATE	TIME
1234	LI401XX	LI401ZZ	83/11/23	11.02.46

Type in after the slash

MAIL,D = sequence number (enter the sequence number given by the Cyber)

Cyber will respond

Mail Complete. Message Deleted.

If your message has already been received by the other person, Cyber will respond with

Mail Complete. 0 Message(s) Received.

GIT

Computer Center documentation (partial)

1 MAIL - DELIVER USER MAIL. 82/03/09. EXTERNAL
0

MAIL - DELIVER USER MAIL.

JAMES T. RANDOLPH. 79/10/30.
J. T. RANDOLPH 81/11/15. ADDITIONAL OPTIONS.
S. R. CORBIN 82/01/02.

GEORGIA INSTITUTE OF TECHNOLOGY.

MAIL PROVIDES A COMMON PROGRAM/FILE INTERFACE FOR LEAVING MESSAGES FOR OTHER CYBER USERS. IT RETAINS CURRENT MAIL, AND AUTOMATICALLY DELETES OUT OF DATE AND DELIVERED MAIL.

0
0

CONTROL CARD FORMAT -

THE MAIL CONTROL CARD FORMAT MAY BE EITHER POSITIONAL, EQUIVALENCED, OR A MIXTURE OF BOTH. THE CONTROL CARD FORMAT IS AS FOLLOWS -

MAIL,[UN1],[UN2],[OPS].[MESSAGE]

WHERE *OPS* ARE ANY OF THE FOLLOWING:

T=UN1 THE USER NUMBER TO SEND MAIL TO. THIS PARAMETER MAY BE SPECIFIED POSITIONALLY AS THE FIRST PARAMETER ON THE CONTROL CARD. IF OMITTED, NO MESSAGE IS SENT. IF *UN1* IS TWO OR FIVE CHARACTERS, IT INDICATES GLOBAL MAIL TO A DEPARTMENT OR PROJECT. ONLY TWO AND FIVE STARS MAY SEND GLOBAL MAIL TO PROJECTS AND DEPARTMENTS. GLOBAL MAIL IS DELIVERED BY THE *NEWS* CONTROL CARD. GLOBAL MAIL MUST BE UPPER CASE ONLY (*NI* IS ASSUMED).

CT=UN2 IF SPECIFIED, A SUMMARY (SEQUENCE NUMBER, TO, FROM, DATE, AND TIME WILL BE LISTED FOR ALL MESSAGES BEING SENT TO USER NUMBER *UN2*. THIS PARAMETER MAY BE SPECIFIED POSITIONALLY AS THE SECOND PARAMETER ON THE CONTROL CARD. IF *UN2* IS *, THE SUMMARY WILL BE FOR ALL MESSAGES.

CF=UN3 SAME AS THE *CT* PARAMTER, EXCEPT THAT THE SUMMARY IS FOR MESSAGES SENT FROM *UN3*. THIS PARAMETER MAY NOT BE SPECIFIED POSITIONALLY. IF *CF* IS SPECIFIED WITHOUT A USER NUMBER, THE USER NUMBER RUNNING MAIL IS ASSUMED. 34

59

VAX MAIL GUIDE

Vax Mail (MAIL) allows you to send messages to other users on any of the Vax 11/780s. The advantage of Vax Mail is that it treats each message separately from all other messages. You can file, forward, delete, print, and reply to each message individually.

Messages that you receive are stored in files called "message files". Your default message file, called MAIL.MAI, is created in your default directory the first time you receive mail. New messages that you receive are appended to the end of MAIL.MAI. Any files that you create while in MAIL will automatically receive a file type identifier (.MAI).

When you use files while in MAIL that were created outside of MAIL and have a file type identifier other than .MAI, you must include a period at the end of the filename and any file type identifier you may have given it. There is an instance where a .TXT type file does not require an extension. See #3 on page 4 under the discussion of the SEND command.

This guide will follow a few conventions for consistency and clarity. All MAIL commands are in capitals. They do not, however, have to be typed in capitals. Both "mail" and "MAIL" will invoke the mail program. Information that you will define is presented in lower case, such as "filename," or "message number." The prompt supplied by the system or program will appear in bold face (e.g., $, MAIL>). You do not retype it. The carat symbol (^) will be used to indicate the control (CTRL) key. For example, ^Y means to press both the "control" and "Y" keys.

To Invoke MAIL

Enter the following command in response to the system level prompt ($):

```
$ MAIL
```

The program responds with the prompt:

```
MAIL>
```

You can now issue the commands described below to send and display messages.

You can also send a one-line mail command from the system level without entering MAIL (see discussion of the SEND command, page 3).

When MAIL sends you a message from another user and you are logged in, MAIL notifies you with a message on your terminal. For example,

```
New Mail from DEHAYES
```

You will also be notified that you have new mail when you log in and when you invoke the MAIL program.

MAIL Commands

MAIL commands consist of one word typed in response to the prompt MAIL>. These commands can be abbreviated to one or two letters as indicated in the following chart. Note that D is the short form of DELETE (not DIRECTORY) and R is the short form of REPLY (not READ). The page number in the final column of the chart below tells you where in this guide you can find a more detailed discussion of that particular command.

The commands are presented in an approximation of a sequence you might use when using MAIL.

Summary of Vax Mail Commands

Command	Abbrev. or Alt.	Meaning	Pg #
HELP	H	Displays information on how to use MAIL	3
SEND	S	Sends a message to user(s).	3
	S/E	SEND/EDIT invokes the editor, EDT	3
	S/L	SEND/LAST sends text of last message sent.	4
		Sending messages via DECnet.	5
		Sending mail to distribution lists	5
READ	<CR> message #	Displays next page, next message, or specified message. READ MAIL displays new messages.	5
REPLY	R	Sends a reply to the sender of the current (last-read) message.	6
FILE	F	Copies current (last-read) message into a specified file.	7
FORWARD	FO	Forwards current (last-read) message to user(s).	7
Print		Not a command. Use FILE & IU system command SEND.	7
DELETE	D	Deletes the current (last-read) message.	8
NEXT	N	Skips to the next message.	8
BACK	B	Backs up to the previous message.	8
DIRECTORY	DI	Lists a summary of your messages	8
SEARCH	S	Searches for a message that contains specified text.	8
EXIT	E	Exits from MAIL (you can also use ^Z).	9
QUIT	Q	Cancels message deletions and exits from MAIL, leaving the message file exactly as it was when you entered MAIL (you can also use ^Y).	9

A discussion of how to organize your mail files appears on page 9.

HELP Command

The HELP command allows you to obtain on-line information. The commands explained by HELP include:

BACK	DELETE	DIRECTORY	EXIT
FILE	FORWARD	HELP	LISTS
NEXT	QUIT	READ	REPLY
SEARCH	SEND		

To obtain the above directory, at the MAIL> prompt, type

MAIL> HELP

To obtain information about a specific command or topic, type HELP followed by the command or topic name. For example,

MAIL> HELP BACK

To obtain information about all of the HELP commands, type

MAIL> HELP*

After issuing this command the information will scroll up the screen faster than you can read it. Type ^S to stop the scrolling and ^Q to resume it.

SEND Command

There are three ways to send a message to another user:

1. For a quick, unedited message, at the MAIL> prompt, type

   MAIL> SEND

   You will be prompted as follows:

   To:

   List here the name(s) of the person(s) to whom you want to send the message, then press carriage return (<CR>). Multiple user names must be separated by commas. The access code for most BACS staff is their last name, or a shortened version of it. Because BACS staff user names on the White Vax are the same as login directory names, the user names are limited to nine characters. Check long names on the telephone listing sheet.

   Subj:

   You may enter the subject of your message if you wish. If you do not define a subject, the memo will be sent without a subject line. This also means that no subject line will appear in your message directory (see p. 8), making that tool less effective. The subject can be up to one full line in length. At the carriage return, you will be prompted for the text of the message, as follows:

   Enter your message below. Press CTRL/Z when complete, CTRL/C to quit:

   Corrections can be made only to the current line by spacing back to the error with the delete or rub key and retyping. (NOTE: ^H does not work on the Vax as a backspace!) Once the return key has been pressed, you cannot go back and make changes. When you have completed your message, type ^Z to send it or ^C to abort it and return to the MAIL> prompt.

2. To edit and then send an existing file or to create a temporary file to send, at the MAIL> prompt, type

   MAIL> SEND/EDIT filename.

   "Filename is the name of an existing file. The period at the end is required, as is any file type identifier you may have given it. You will be prompted for the receiver and subject, then your file will be opened for editing with EDT.* (Note: to use EDT as a full screen rather than line editor requires a VT-100 terminal.)

If no filename is specified, EDT will be invoked so that you can create and edit a new file. The new file is automatically named MAIL.TMP, a temporary file which is deleted when the message is sent. (If you specified an existing file with a name other than MAIL.TMP, that file is not deleted.) Upon completion, type ^Z to send the message or ^C to abort it and return to the MAIL> prompt. /EDIT can also be used with the REPLY command.

If you would like to send a previously created file without further editing, type

MAIL> SEND filename.

The period at the end of "filename" is required as is any file type identifier. MAIL will prompt you for the receiver and subject, then send the message upon the carriage return after the "Subj:" prompt.

* The default editor will soon be changed to IUedit.

3. You can create and send mail without actually entering the MAIL program. At the system ($) level, create an IUedit (or EDT or SOS or CREATE) file with the text of your message, then type

$ MAIL/SUBJECT="text" filename. username(s), "@listname"(s)

This is all entered on one line with a space between "filename." and "username." Several parts of this command are optional, as explained below.

"Text" is what will appear on the subject line of the message. If you include more than one word, you must enclose the text in quotation marks. If you omit the /SUBJECT qualifier, the message is sent without a subject line.

"Filename" is the name of the file you just created. The period and any file type identifier are required. Without a specified file type identifier, the default .TXT file type is assumed. No wild card characters are allowed in the filename specification. If you do not specify a file in the command string, the MAIL program is invoked, as shown above.

"Username(s)" is the name(s) of the person(s) to whom the message is to be sent. A comma must be placed between multiple usernames.

"@Listname" is the name of a distribution list file. See "Sending Mail to Distribution Lists" (page 5) for further discussion. The quotation marks and "at" sign (@) are required. The @ invokes an automatic .DIS file type identifier. If you name your distribution list file with another file type extension, it must be specified after a period. A distribution list name that follows a user name must be preceded by a comma.

The carriage return at the end of the line returns you to the system level prompt ($).

To keep a copy of a memo you SEND, you must SEND it to yourself by including your username in the "To:" prompt.

Another qualifier that can be used with SEND and REPLY is /LAST. This specifies that the last message that you sent should be used as the text for the current message. /LAST is useful if you change your mind after aborting a message with ^C, or if you wanted to keep a copy of a message you sent, but forgot to include your name after the "To:" prompt. It is also helpful in saving a message that aborts because the receiver's disk space has been exceeded. By entering SEND/LAST, you may MAIL the memo to yourself or someone else and

thus save retyping it later when the receiver falls below quota. The /EDIT qualifier is ignored if /LAST is specified.

Perhaps a disadvantage of Vax Mail is that it doesn't inform you of whether a message was actually sent. Unlike Prime Mail, which gives you the message, "Mail sent to JWS402," Vax Mail simply returns you to the MAIL> prompt. One simply assumes that the prompt is an indication that the message was sent correctly.

Sending Messages Via DECNet. Each Vax is considered a separate node, with a nodename corresponding to its color designation: Yellow, Blue, Red, Green, Orange (available April 83), and White. Mail can be sent to users on other machines by including the nodename in the SEND command:

```
To: green::jones
```

If you correspond with someone on another Vax frequently, you can redefine this sequence for brevity as follows:

```
$ ASSIGN green::jones sam
```

Now all of your correspondence to Sam Jones can be addressed to simply "Sam" rather than "Green::Jones." This ASSIGN command could be included in your LOGIN.COM file to prevent reentering it at every terminal session. You can make this addition with IUedit.

Sending Mail to Distribution Lists. If you frequently send mail to the same group of users, you may find it helpful to use a distribution list. A distribution list is simply a file containing the names of users to whom you want to send messages.

To set up a distribution list, use IUedit or CREATE to create a list file with the file type .DIS. Enter one user name per line in this file. A distribution list can also include the names of other distribution lists. You can include comments in your file by entering lines whose first character is an exclamation point (!). For example:

```
$ CREATE Project1.DIS
! Members of Project 1
Lambert
Bomgardnr
Flowers
Green::Jones
@WCBIS2
```

To use the distribution list file, you enter its file name preceded by an "at" sign (@) in response to the "To:" prompt. For example,

```
To: @Project1
```

You can enter separate user names along with the distribution list if the distribution list is the last entry:

```
To: Dawson, Young, @Project1
```

You cannot, however, send mail to more than one distribution list at a time, unless they are nested (i.e., contained within one another). The above example includes a distribution list (@WCBIS2) nested within another (Project1). Notice also that "Bomgardnr" is an example of a user name that has been shortened to nine characters.

READ Command

The READ command displays your messages. It can be issued with or without parameters, in the following formats:

```
MAIL> <CR>

MAIL> message-number

MAIL> READ filename message-number

MAIL> READ MAIL
```

Several of the above parameters are optional and are explained below.

When you log and and enter MAIL, you will be informed of any new messages

waiting for you. For example,

You have 3 new messages.

When you first enter MAIL, a simple carriage return or the READ command will display the first of your new messages. If there are no new messages, MAIL will display the first of any old messages left in your file.

Each time you enter the READ command without parameters, or press RETURN, MAIL displays the next page, or the next message if there are no more pages in the current message. When you get to the end of your new messages, you will receive the message:

%MAIL-E-NOMOREMSG,no more messages

This actually means there are no more NEW messages. If you want to review your old messages, press the carriage return one more time, and MAIL will display the oldest message in your file. If you go all the way through your old messages, you will once again see the "no more messages" statement. This time you will really have reached the end of your messages. Another carriage return will take you once again to your oldest message.

The separation of new and old messages can be a tool in managing your MAIL files. See "Organizing MAIL Files" (page 9).

"Message-number" is a number representing the position of a message in a message file. The message number appears in the upper right hand corner when a message is displayed on the screen and in the directory of messages. To go directly to a particular message, you can give the message number (with or without the READ command) in response to the MAIL> prompt. If you specify a number greater than the number of messages in the file, MAIL will display the last of your old messages. Therefore, by specifying a very large message number, you can read the latest message in a file. This is helpful if you want to review some of your more recent messages but don't want to look up the message number in the directory.

"Filename" is the name of another message file. (See FILE command below for a discussion of creating separate message files.) You can go directly to a specific message in another file by typing READ, the filename, and the message number, or to the oldest message in the file by typing READ and the filename. It is not necessary to add the identifier .MAI to the filename; the system assumes the file type. If the READ command is given without a filename, the default file MAIL.MAI is assumed.

If you are already in MAIL and are notified that you have a new message, you must issue the READ MAIL command to read it. Once the MAIL.MAI file has been opened and the waiting new mail has been read, the READ command (or <CR>) will only display old messages. After you have issued the READ MAIL command and read the new message, a <CR> will return you to whatever you were doing before. You will also be notified of new messages if you are logged on at the system ($) level. Simply enter MAIL (by typing MAIL) and then press <CR> at the MAIL> prompt.

REPLY Command

The REPLY command sends a message to the sender of the current (last-read) message. You must be reading a message in order to REPLY to it. Qualifiers and parameters can be used with the REPLY command as follows:

MAIL> REPLY/qualifier filename

The REPLY command alone will prompt you for text; then, upon your ^Z indicating the end of the message, it will automatically send your reply to the sender of the message. While creating your message, you can only edit the current line. Once the return key is pressed, that line cannot be changed.

^C aborts the message.

One of two "qualifiers" may be used: /EDIT or /LAST. /EDIT puts you automatically into EDT, allowing you to edit your message. /LAST specifies that the last message you sent should be used as the text for the current message. The /EDIT qualifier is ignored if /LAST is specified. (See SEND above for further discussion of /EDIT and /LAST.)

By specifying a "filename," that file can be sent as your reply. If no file is specified, you will be prompted for the text of your reply.

FILE Command

The FILE command is used to save a copy of the current (last-read) message in a separate message file. You must be reading a message in order to FILE it. The form is:

MAIL> FILE filename

"Filename" is the message file in which you want the message saved. The name of the file cannot exceed nine alpha/numeric characters. The copy that you FILE is appended to the end of an existing file. If the specified file does not exist, MAIL will create a file with that filename in your default directory. It is not necessary to add the identifier file type. You can supply another file type extension if you prefer. After you FILE a message, it still exists in your MAIL.MAI file.

The creation of separate message files is another way to manage your MAIL.

FORWARD Command

The FORWARD command sends a copy of the current (last-read) message to a user or users. You must be reading a message in order to FORWARD it. MAIL prompts you for the name(s) of the individual(s) to whom you want to forward the message. See the SEND command (above) for more information on sending messages.

Printing Messages

If you would like paper copies of your messages, they can be printed out one message at a time or all together in a message file.

A single message to be printed must be copied to a scratch file (see FILE above) then routed to a printer with the IU system command SEND (not to be confused with the Vax Mail subcommand, SEND). The IU SEND command is explained below.

Printing an entire message file is a little trickier. If the MAIL.MAI file is printed out as it is, each message will be printed at the beginning of a new page, wasting a lot of paper. It will be necessary to get into the MAIL.MAI file with IUedit and delete the form feed commands. Once in the file, type

C/^L//*<CR>

Note that ^L is actually the command sequence "CTRL L," not the housetop character and then L. When it is issued the cursor will jump down the screen several lines, but that will not prevent you from finishing the string. <CR> is carriage return. The above command will go through the file and delete every form feed command (which appears as ^O14 in the file).
The next problem is that MAIL.MAI does not like to be messed with. When you save the file you must rename it, for example

Q,temp,R

This creates a file, "temp.", which can then be printed according to the instructions below. Your MAIL.MAI file is left as it was before it was modified and renamed. This is only necessary for the default MAIL.MAI file; you do not have to rename any other .MAI file you have created.

Now to the actual printing. It will be necessary to exit mail in order to print a file. At the system ($) level, enter the following command:

$ SEND filename. site

"Filename" specifies the name of the file to be printed. The period is required, as is any file type identifier other than .TXT, which is assumed.

"Site" specifies the printer site. Following is a list of the present printer locations for the White Vax and their code names:

BAL307 - Ballantine Hall 307A
LIND110 - Lindley Hall 110
BUS101 - Business 101
MEO20 - Memorial Hall 020
HPER155 - HPER 155
SE013 - Swain East 013
LIB102A - Main Library 102A
WH211 - Woodburn Hall 211

If you type SEND without parameters you will be prompted for the filename and site.

DELETE Command

The DELETE command deletes the current (last-read) message. You must be reading a command in order to DELETE it. Type DELETE at the MAIL> prompt after a message has been displayed.

MAIL> DELETE

Although the message is apparently deleted when you type DELETE, it is not actually deleted from the file until you exit from MAIL or read messages from another file. Thus, if you accidentally issue the DELETE command, you can override it with the QUIT command (see below).

NEXT Command

The NEXT command skips to the next message and displays it. This command is useful if, while reading through your messages, you encounter a particularly long message that you would like to skip over. Long messages are printed one screenful at a time with the message "Press RETURN for more..." and the MAIL> prompt at the bottom. If you press RETURN, MAIL will display the next page of the message. If you issue the NEXT command, the rest of the message will be skipped, and you will be taken to the next message. The form is

MAIL> NEXT

BACK Command

The BACK command displays the message preceding the current (last-read) message.

MAIL> BACK

DIRECTORY Command

The DIRECTORY command lists a summary of the messages in the current or specified message file, including message number, sender's name, date, and subject. At the MAIL> prompt, type:

MAIL> DIRECTORY filename

If a filename is specified, MAIL displays a summary of the messages in the file. If no filename is specified, MAIL displays a summary of the messages in the current (MAIL.MAI) file. The current message file contains all messages that are now present in the file. Deleted messages are no longer contained in the current message file.

SEARCH Command

The SEARCH command searches for messages that contain a specified text string. Enter the following command:

MAIL> SEARCH search-string

"Search-string" is the text string that is searched for in your current message file. SEARCH starts from the beginning

of the file, locates the designated string, and displays the message in which the string occurs. If search-string is not specified, a search is made for the previously specified string, starting after the current (last-read) message. Thus, once SEARCH has located a string the first time, all you must do is enter the command SEARCH and it will look for the next occurrence of the same string.

SEARCH ignores upper and lower case distinctions. For example, if you are looking for "STAFF MEETINGS" in your file and it is entered in all capitals, the search-string "staff meetings" will locate the desired message(s).

EXIT Command

The EXIT command allows you to exit from MAIL. Any files that you have designated for deletion will be deleted upon the execution of this command.

```
MAIL> EXIT
```

You can also exit from MAIL by typing ^Z.

QUIT Command

The QUIT command cancels message deletions and exits from MAIL. Messages selected for deletion by the DELETE command are not deleted from the MAIL file. Thus if you accidentally issue the DELETE command, you can cancel it by issuing the QUIT command before exiting from MAIL or reading messages from another file. (QUIT performs the same function as ^Y)

```
MAIL> QUIT
```

Organizing MAIL Files

Each individual will find his or her own method of organizing MAIL files. Following are some suggestions.

Each message you want to keep can be stored in a separate file according to sender, subject, or any other criterion you want to establish. This divides your MAIL into manageable sections which can be reviewed from time to time.

If you like to keep paper copies of important messages, do not delete those messages from your file. Once a week or so, print the entire file with the system level SEND, then delete it, to start out new again. It may be necessary to change the protection level of your MAIL.MAI file in order to delete it. To do so, at the system prompt ($) type

```
$ SET PROT = O:RWD MAIL.MAI
```

A new MAIL.MAI file will be created with the first new message that you receive.

Since the first messages that come to you when you enter MAIL are your new ones, you will not have to wade through a list of old ones every session. It is therefore feasible to keep old messages in your file to be reviewed from time to time or to be collected and printed out together.

The SEARCH command simplifies locating specific information that you know is somewhere in your messages, making large message files manageable.

As mentioned above, if you want to keep copies of messages that you SEND, you must SEND them to yourself.

UNIVERSITY OF WASHINGTON LIBRARIES
SEATTLE, WASHINGTON 98195

November 30, 1983

FOR IMMEDIATE RELEASE.....

CONTACT: William DeJohn, Head
Resource Sharing Program
(206) 543-1878

ELECTRONIC MAIL IN THE PACIFIC NORTHWEST

Over 40% of the interlibrary loan requests received by the University of Washington Libraries Resource Sharing Program are transmitted electronically.

Electronic transmission of interlibrary loan requests allows requests to go from interlibrary loan office to interlibrary loan office, bypassing mail rooms, the U.S. Post Office system, and various typing, envelope addressing, and folding and stuffing procedures. This reduces the time it takes materials to reach the library's end user.

The University Libraries receives requests and other messages over various electronic transmission modes: OCLC, ONTYME and ENVOY electronic mail systems, telefacsimile, TWX, and WLN IMAIL, an interim interlibrary loan system. OCLC allows interlibrary loan requests to be linked to bibliographic records in its data base. Other electronic mail systems are free form in that interlibrary loan requests must be typed into the workspace. These systems provide text editing and private and shared file capabilities for more efficient use, and messages or interlibrary loan requests can be sent to any other library or organization participating in the same electronic mail system.

The ONTYME electronic mail system is one of the principle electronic mail systems used to send requests and messages among libraries in the Pacific Northwest. The University of Washington Libraries coordinates the ONTYME electronic mail service for over 130 library users in the Northwest. There are over 800 library-related users participating in ONTYME in North America.

Within the Northwest, the profile of the electronic mail users on ONTYME are as follows:

academic libraries	42	public libraries	8
corporate libraries	22	state/provincial agencies	9
health sciences libraries	43	others	10

Many of these libraries are also using their own in-house or other available electronic mail systems and/or are on OCLC, UTLAS, or WLN. This makes it possible for libraries to communicate with one another even if their bibliographic utilities cannot.

The Resource Sharing Program staff has been sending interlibrary loan requests to the Library of Congress during the past year via ONTYME in order to assist the Library of Congress to experiment with receiving requests electronically.

In Oregon, the health sciences libraries, working closely with the Oregon Health Sciences University Library, have set up formal protocols in order to use the electronic mail system more efficiently. They have devised a shared file which acts as a reporting mechanism on the status of requests completed by the Oregon Health Sciences Library.

Continued....

Several Canadian libraries are using ENVOY, an electronic mail system developed by Bell-Canada. The University of Washington Libraries is also on ENVOY, thereby making it easier to communicate and send requests across the Canadian/American border. A commercial delivery service jointly funded by the University of Washington in Seattle and the University of British Columbia in Vancouver supplements the use of electronic mail to send requests back and forth and to deliver materials without undue delays. Libraries in British Columbia, Alberta, and Saskatchewan are using ENVOY with the University of Washington Libraries as well as with libraries throughout Canada.

The University of Washington Libraries is on THE SOURCE, and has recently joined ALANET, the American Library Association's electronic mail and information service available through ITT DIALCOM.

As a major research library, the University of Washington Libraries feels it has an obligation to be able to communicate with as many other libraries and institutions as possible as efficiently and effectively as existing technology allows. Any savings in staff time ultimately benefits the end user whether at the University of Washington or some other library.

The University of Washington Libraries uses the following:

	Symbol	
OCLC	WAU	(Read twice per day.)
ONTYME	UWLRSP	(Read three times per day.)
ENVOY	UWLRSP	(Read three times per day.)
WLN IMAIL	UWR	(Read once per day.)
THE SOURCE	SLS 107	(Read once per week.)
ALANET	WAU.RSP	(read once per day.)

RESOURCE SHARING PROGRAM

UNIVERSITY OF WASHINGTON LIBRARIES

SEATTLE, WASHINGTON 98195

The UWLRSP OnTyme-II Electronic Mail System

OnTyme-II is an electronic mail system that allows for the rapid transmission of messages through the use of a computer terminal. Because it combines the speed of a phone call with the capability to transmit text, OnTyme-II is a superior alternative to the mail, the telephone, TELEX or TWX. Accessed by a phone call to your local Tymnet number, OnTyme-II is an efficient and inexpensive method to communicate locally, across country, or internationally. Start-up for the service is quick and inexpensive because OnTyme-II can be used with almost any standard computer terminal.

UWLRSP offers the OnTyme-II Electronic Mail System under an agreement with CLASS, the Cooperative Library Agency for Systems and Services, which is a cooperative library agency providing a range of network services.

This information sheet has been designed to allow you to discover the features and uses of OnTyme-II as an electronic mail system. You can picture the system by looking at your own desk. On your desk you have:

-The workspace on top of your desk
-An "in" and "out" basket
-Your file drawers which contain manila files of related material

The OnTyme-II message and memo network is designed to function in the same manner as you currently do. You will have your "in" box right at your fingertips. It will just be in the network instead of on your desk. The same applies to your "out" box. Your files for your messages and other materials can also be held within the network. You will be able to identify the information by both the name that would be on the pendaflex folder as well as the heading on the manila file(s) within it.

As an electronic mail system, uses for OnTyme-II are limited only by the imagination. OnTyme-II has been used:

-to send messages to one person or to groups of people that usually receive the same message.
-to forward ILL requests for journal citations or monographs.
-storing messages that you would like to keep beyond the normal, scheduled time, such as several messages relating to one subject or an upcoming agenda.
-storing rough drafts of letters that have to be proofread or otherwise corrected.
-returning to work that you were unable to complete at an earlier time due to those "oh so common" interruptions.
-storing formats for form letters, and other personnel, or administrative documents that need only to have some variables changed or added.
-forwarding the text, or portions of the text, of documents instantly to one or to several users.

NOTE: Please turn over for cost information.

UNIVERSITY OF WASHINGTON LIBRARIES

SEATTLE, WASHINGTON 98195

RESOURCE SHARING PROGRAM

ELECTRONIC MAIL SERVICE

Basic OnTyme II Charges

Usage Time	$ 3.00/hour (minimum of 2 minutes per session)
Character Input/Output	$ .25 per 1,000 characters
Customer File Storage	$ .01 per 1,000 characters per day

Resource Sharing Program Charges

UWLRSP Annual Subscription	$75.00 per year
UWLRSP Annual Handling Fee	$60.00 per year
One Time Start-Up Fee	$17.50 initial fee for establishing accounts for main ID and providing assistance online. Includes one copy of CLASS OnTyme User's Manual (February 1983). Additional Manuals available for $10.00
Additional ID's	$12.00 per year per ID* plus OnTyme usage charges.

*Limit of 4 ID's in addition to the main ID for regular service. All additional ID's which have their own mailing address and are not invoiced on the same invoice as the main ID will be charged the UWLRSP annual handling fee.

For information on above, or to sign up, contact:

Ardis Dull - (206) 543-1878
Resource Sharing Program
University of Washington Libraries FM-25
253 Suzzallo Library
Seattle, WA 98195

Northwest cities with TYMNET access numbers as of 7/83:

Washington:

Enumclaw	Richland	Spokane	Vancouver
Olympia	Seattle	Tacoma	Yakima

Oregon:

Eugene	Portland		
Medford	Salem		

Montana:

Butte	Great Falls (pending)		Bozeman (pending)
Billings (pending)	Missoula		

Idaho:

Boise	Pocatello (pending)	Idaho Falls (pending)

Alaska:

Anchorage	Juneau	47

7/83

Information Alert

From The National Agricultural Library

United States Department of Agriculture

NATIONAL AGRICULTURAL LIBRARY EXPANDS USE OF ELECTRONIC MAIL

The National Agricultural Library (NAL) is strengthening and improving its communications capabilities through the use of several national and international electronic mail systems.

Electronic mail provides immediate user-to-user contact for message transmission without regard to the previous obstacles of time zone differences or geography. NAL is presently utilizing three electronic mail systems: CLASS (California Library Authority for Systems and Services), COMET (COmputer MEssage Transmission), a trademark of Computer Corporation of America, and DIALCOM Incorporated.

NAL is now exploring the possibility of accepting requests for documents, AGRICOLA database searches, and for receiving reference and general inquiries over the electronic communications network. Other channels of communication may also be established.

The three electronic mail systems all have the capacity for sending and receiving messages. Filing, forwarding, editing, and even proofreading are also systems capabilities. Each system, CLASS, DIALCOM, and COMET offers some unique services; and each has its own intended audience. But all three systems can be accessed directly or indirectly both nationally and internationally through either the TELENET, TYMNET, or UNINET communication networks after sign-on with a personal identification number and password.

Unique Features of Each System

DIALCOM's most unique service consists of a Cooperative Systems Information Resource Network consisting of Department of Agriculture, Experiment Station, and Extension Service news releases, agricultural outlook reports, United Press International, and the Official Airline Guide.

The CLASS system was developed to help assist public and private library agencies in California. It has expanded its membership to any type of library, public or private, upon payment of an annual fee. One of the most important applications of the CLASS electronic mail service for libraries in a method developed for transmitting interlibrary loan requests.

COMET is a computer-based system for receiving, preparing, editing, sending, filing, and retrieving messages. COMET is widely used by various agencies in the U.S. Department of Agriculture--Agricultural Research Service, Forest Service, and Foreign Agriculture Service.

Electronic Mail Contact at NAL

Please call or write Educational Resources Staff (301-344-3937) or Information Systems Division (301-344-3813), National Agricultural Library, Beltsville, Maryland 20705, if you have any questions.

(over)

SEE PAGE TWO

Information Alert

From The National Agricultural Library

United States Department of Agriculture

GETTING STARTED ON AGRICOLA

Now that most agricultural scientists, educators, and administrators have some form of access to computer terminals, micro computers, or communicating word processors, many have asked the National Agricultural Library (NAL) to provide technical assistance in getting started searching AGRICOLA. AGRICOLA is the library's master bibliographic database.

Although AGRICOLA is produced by the National Agricultural Library, which is fully responsible for its scope, structure, and content, NAL does not operate its own online computerized information retrieval system. Therefore, access to AGRICOLA is currently available only through commercial vendors such as the DIALOG Information Retrieval Service in Palo Alto, California (800-227-1960) or the Bibliographic Retrieval Service (BRS) in Latham, New York (800-833-4707). Passwords for searching AGRICOLA on either of these two systems must be obtained via a contractual arrangement directly with BRS or DIALOG.

Individual searchers located on university campuses may wish to check with their online librarian to see if university contracts already exist. Individuals employed by the Federal Government may also work through the Federal Library Committee's FEDLINK office to arrange for contracts with the vendors. FEDLINK has negotiated some government-wide discounts for searching DIALOG and BRS. For information regarding FEDLINK, please contact Mr. Milton McGee at 202-287-6454.

In addition to offering AGRICOLA, both DIALOG and BRS offer numerous other biological and chemical databases of interest to agriculturists.

Equipment

AGRICOLA can be accessed on commercial systems using standardized and widely available dial-up computer terminals. Some have built in "modems," others have separate stand-alone higher speed modems. Ordinary "voice grade" or office telephones are sufficient for most searchers. No special telephone lines are necessary.

Also, AGRICOLA can be accessed on microcomputers and "down loading" is permissable as the database is not copyrighted. To search AGRICOLA using a microcomputer, your micro must have a communications capability--that is, it must be able to function as a dial-up terminal. As procedures and systems requirements may vary from one micro to another, individuals wishing to use microcomputers to access the database should contact their own equipment representative for specific hardware and software requirements. Both DIALOG and BRS have available fliers describing general communications requirements. They may be contacted directly.

Training

AGRICOLA is a large scale bibliographic database, consisting primarily of natural language cataloging and indexing records referencing nearly 2 million books and journal articles. To search the database requires some familiarity with both

the host retrieval system and the scope, structure, and record format of the database. Therefore, some training will be required before getting started. Both DIALOG and BRS offer training classes in the use of their systems, and NAL offers training in the use of the AGRICOLA database. For information about the NAL training workshops and a schedule, please contact Charles Bebee at 301-344-3937. NAL also has an AGRICOLA Users Guide which is available as an aid to using the database.

Access Via DIALCOM

As many people are aware, AGRICOLA can be accessed on either DIALOG or BRS via the ITT DIALCOM Electronic Mail System. Users who have DIALCOM passwords can ask for database vendors at systems level and enter the information retrieval systems without exiting DIALCOM. The advantage to this approach is that information captured during an AGRICOLA search will thereby be stored automatically in their DIALCOM remote mailbox. It can be further processed, stored for later use, or forwarded to some other user. Again, please note that passwords for searching AGRICOLA on commercial systems must already have been arranged with the vendor. For more information about how to access commercial vendors through DIALCOM, please contact your DIALCOM representative.

For additional information on searching AGRICOLA, contact Charles Bebee, NAL, 301-344-3937.

Attachment A

National Agricultural Library

USDA/EXTENSION SERVICE
REVIEW OF
ITT DIALCOM, INC.
OFFICE AUTOMATION SERVICES

JANUARY, 1984

TABLE OF CONTENTS

PAGE

in kit

1 - Examples of reading, sending, electronic mail

2 - Example of scanning, quick scanning electronic mail

3 - Various MAIL options

4 - Sending from ITT Dialcom to Comet

5 - Sending from Comet to ITT Dialcom

6-7 - Example of on-line access to OAG

8-9 - Example of a custom form, using information obtained from OAG

10-11 - Extension Service electronic publishing menu

12 - AGAM accessed from the Extension Service menu

13-14 - Using NEWS menu, searching for specific stories

Example - READING current mail

```
ITT Dialcom Computer Services 18.3B(50)
On At 13:42 04/25/83
Last On At 8:05 04/25/83

Mail call (3 Unread, 1 Unread Express, Total 4)

>MAIL
Send, Read or Scan:  READ   <------------------may shorten to "R"

     To:   SMITH (ABC002)
     To:   RYAN (ABC001)
     Cc:   THOMAS (ABC020)
   From:   MCGEE (ABC1234)  Posted:  Thu 24-Apr-83  10:37  Sys 50 (3)
Subject:   Friday Meeting

--More--  [RETURN]      <---------------------------or YES to see Text
The regular Friday meeting has been cancelled.
We will wait for Warrren Thomas to return since
he has the latest news on the Acme Project.


Disposition:
```

Example - SENDING a message

```
>MAIL                          <---------------------------enter MAIL system
Send, Read or Scan:  SEND      <-----------------------may shorten as "S"

To:  SMITH JONES               <-------------------------use DIS DIR if in doubt
Subject:  Friday Advisors Meeting
Text:
At Friday's meeting (8:00 am), Jim will outline
the New Foundation.  If there is any reason why
you can't attend, please let me know.
.SEND                          <-----------------------------execute the send

SMITH -- Sent
JONES -- Sent

To:   QUIT                     <-----------------------------exit MAIL system
>
```

this ends a simple send transaction.

Example - SCANNING current mail

```
>MAIL
Send, Read or Scan:  SCAN   <----------------------may shorten to SC

1     From:  BOGART (ABC018) Posted:  Fri 25-Apr-83  13:03  Sys 50 (3)
   Subject:  Reply to:  CASA BLANCA

2     From:  MCGEE (ABC1234) Posted:  Fri 25-Apr-83  10:37  Sys 50 (3)
   Subject:  Friday Meeting

3     From:  THOMAS (ABC020) Posted:  Wed 23-Apr-83  10:11  Sys 50 (2)
   Subject:  Acme Project Delays

4     From:  RYAN (ABC001)   Posted:  Wed 23-Apr-83  10:06  Sys 50 (1)
   Subject:  Friday Meeting

Read or Scan:                <----------------------options to be discussed
```

Example - QUICK SCANNING current mail

```
Send, Read or Scan:  QSCAN

1     From:  BOGART  Fri 25-Apr-83  13:03  Reply to:  CASA BLANCA
2     From:  MCGEE   Fri 25-Apr-83  10:37  Friday Meeting
3     From:  THOMAS  Wed 23-Apr-83  10:11  Acme Project Delays
4     From:  RYAN    Wed 23-Apr-83  10:06  Friday Meeting

Read or Scan:
```


2 - Example of scanning, quick scanning electronic mail

CC - Send a "Courtesy" Copy of the message to specified person(s).

Example - Courtesy Copies to J.WALTERS and W.BROWN
To: M.NEILSEN CC J.WALTERS W.BROWN

BC - Send a Blind Copy of the message to specified person(s). This differs from a Courtesy Copy in that no other recipient will know the BC recipient received a copy of the message. The BC recipient will see the ENTIRE "To:" list.

Example - Blind Copy to C. LAUB
To: M.NEILSEN CC J.WALTERS W.BROWN BC C.LAUB

AR - Send message Acknowledgment Requested. As soon as the recipient(s) reads the " header" of the message, a "receipt" is automatically sent back to you as a mail item.

Example - Acknowledgment Requested (note global use)
To: M.NEILSEN CC J.WALTERS W.BROWN BC C.LAUB AR

RR - Send message Reply Requested. When the recipient(s) read the message, they are automatically put into the "reply" mode and prompted with "Text:".

Example - Reply Requested of J.BROOKS
To: P.MCKINGHT C.BROWN RR J.BROOKS

EX - Send message Express. The item sent will go to the "top" of the person's mailbox and the "Mail Call" message received at the recipient's sign-on will specify Express items waiting to be read.

Additionally, if the recipient is on the system at the time the Express item is sent to him (them), a message will appear on his terminal: "Express Letter Call from name" with a "beep".

Example - Express message to all
To: K.STAUB CC J.HUBSCHER F.LASKY EX

Example - CC to D.TAYLOR and EX,AR,RR to all
to: J.RIVERS J.WEINSTEIN CC D. TAYLOR EX AR RR

HOW TO SEND A MESSAGE FROM THE ITT DIALCOM SYSTEM TO COMET USERS

Below is a list of six basic steps for users on the ITT Dialcom system to follow when sending mail to users on the Comet System. Each step is illustrated in the example below.

1. Access DIALCOM's Electronic Mail System - Type MAIL at system level ">" (carriage return)
2. Type SEND at the Send, Read or Scan Prompt (carriage return)
3. Enter Comet user name (*see special note below) (carriage return)
4. Enter the SUBJECT of your message (carriage return)
5. Enter the TEXT of your message
6. To end text input mode and to send your message, you must carriage return after your last line of text and type . (period) Send (.Send) to send your message to Comet

Step 1. >MAIL

2. SEND, READ or SCAN: SEND
3. TO: CM T_KEMPER
4. SUBJECT: SENDING A MESSAGE VIA DIALCOM TO COMET
5. TEXT:
   This is the body of the DIALCOM message being sent to Tony Kemper on the Comet Mail system.
6. .SEND

CM: TONY_KEMPER -- SENT

The following name format MUST be used when sending messages via the Dialcom system to Comet users:

TO: COMET:T#KEMPER or TO: CM:T_KEMPER

The difference in sending mail to Comet users from the Dialcom system is adding the CM: or COMET: shown above. The # or _ symbols must be entered to fill blank spaces which are not allowed via the Comet gateway.

There is a slight time delay (usually 15 minutes) when messages are sent between DIALCOM & COMET during the day.

HOW TO SEND A MESSAGE FROM THE COMET SYSTEM TO ITT DIALCOM USERS

Below is a list of ten basic steps for users on the Comet Mail system to follow when sending messages to users on the ITT Dialcom Mail system. Notice that each step identified, is illustrated in the Example Below.

STEP 1. SIGN ON TO THE COMET MAIL SYSTEM, and (enter user ID and Password)
2. Type COMPOSE at the Comet computer prompt COMMAND: (COMMAND:COMPOSE)
3. Type DIALCOM at the TO: prompt (DIALCOM addresses Dialcom's gateway mailbox.
4. Press Carriage Return at the CC: prompt
5. Enter subject of message at SUBJECT: prompt
6. Create $TO line which identifies Dialcom user mailbox ID's after the TEXT: prompt
7. Press Carriage Return - A BLANK line must be placed here!
8. Enter text of your message
9. To end the text input mode, type a . (period) on a blank line
10. Type SEND at the COMMAND: prompt to send the message to Dialcom

Step 1.
```
COMET Message Service - BL48 #9  (Date)  (Time)
Please type your name:
password: ######
Thank you.
```

2.
3.
4.
5.
6.
7.
8.
9.
10.
```
Command:  COMPOSE
To:       DIALCOM
CC:
Subject:  SENDING A MESSAGE VIA COMET TO DIALCOM
TEXT:
$TO RICH FELICIA
 (carriage return)
This is the body of the Comet message being sent
to Rich & Felicia at Dialcom.
.
Command:  SEND
CCA       19-AUG-82  14:37: 33 270 1
Message sent
```

NOTE: The only difference in sending mail from the Comet System to Dialcom Users are Step 3. and Step 6. shown above.

DIALCOM establishes the Dialcom Gateway, and the $TO line identifies the Dialcom Recipients.

There is a slight time delay (usually 15 minutes) when messages are sent between COMET & DIALCOM during the day.

The Utilization of Electronic Mail in the Carnegie-Mellon University Libraries

Thomas J. Michalak
Director
Carnegie-Mellon University Libraries

Spring, 1984

Carnegie-Mellon University
Hunt Library, Schenley Park
Pittsburgh, Pennsylvania 15213
412-578-2446

Background

University Computing Facilities

Carnegie-Mellon University maintains a centralized Computation Center to support computing in instruction, research, and administration. Six Digital Equipment Corporation **DECSYSTEM-20's**, four **VAX** computers, and a **Xerox** 9700 laser printer, provide more than 6,000 faculty, staff, and students with access to the highest quality timesharing computing facilities available.

The **DEC20's** form the heart of the system and utilize the **Tops** 20 operating system (Timesharing Operating System.) In addition, there are a number of machines dedicated to research in the academic departments. All central computers are networked together via **DECnet** with links to departmental computers in Psychology, Chemistry, Physics, and the Computer Science Department. The current central system network serves more than 500 simultaneous online users.

The University Libraries

Carnegie-Mellon University maintains three libraries. Hunt Library serves the College of Humanities and Social Sciences, the College of Fine Arts, the Graduate School of Industrial Administration, and the School of Urban and Public Affairs. The Engineering and Science Library serves the Carnegie Institute of Technology and the Mellon College of Science. The Mellon Institute Library, located approximately 1/2 mile from campus, serves the Departments of Biology, Chemistry, and the Mellon Institute. Audio Visual Services as well as Archives are part of the University Libraries.

Processing of library materials is handled centrally, with the exception of periodicals check-in at the Mellon Institute Library. Cataloging is done through OCLC.

The Library staff consists of 60 full time librarians, professional, and clerical staff.

Utilizing Central Computing Resources

University policy encourages the use of central computing facilities. Administrative computing is available without charge to the University Libraries, although fund accounting is maintained to monitor usage. In 1981, the Libraries were encouraged to expand their use of Computation Center resources and identify computing applications within the Libraries. Up to this time, Computation Center support was limited to the Libraries' online acquisition and fund accounting system. At the outset of the expansion of computing in 1981, the Libraries had 10 lines (7 in Hunt Library, 2 in the Engineering & Science Library, and 1 in the Mellon Institute Library) installed to the Computation Center. With the encouragement and support of the University Provost, the CMU Libraries began to utilize electronic mail along with other central computing resources.

There were a number of reasons why the Libraries chose to embark on a widespread introduction of central computing systems, particularly electronic mail.

- The computing resources, including software, manuals, and training support were available.
- Libraries as paper intensive organizations are ideal environments for text editing.
- Communications within libraries is intensive, extensive, and suited to electronic mail.
- The Library as one of the largest integrated organizations in the University could serve as a testing ground for a large scale introduction of text editing and mail systems.
- The application of computing technologies could facilitate rapid change within the organization.
- Training for text editing and electronic mail would prepare staff for the introduction of new computing applications, e.g. online catalog, automated circulation, etc., designed to improve library operations and services.
- Organizational morale would improve as the staff felt more a part of the intense computing environment of the University.

Training for Central Computing Systems

The Computation Center offers short courses in a variety of systems available on the central computers. Staff were encouraged to attend these courses and the Libraries paid the modest fees involved. Copies of the Computation Center's manuals[1] were purchased and widely distributed throughout the Libraries. An array of online help files exist, some helpful and some confusing, and these were available once a staff member learned to logon to the system.

The diffusion process was top down. Department heads learned the systems and began to use electronic mail and text editing. As training expanded and individual staff members became proficient, a buddy system developed with the more experienced users sharing their expertise with staff who were beginning to learn the systems. Online tutorials, help files, and Computation Center manuals facilitated the learning process. Enthusiasm grew and morale improved as the library staff began to feel more a part of the intense computing environment at CMU.

Since Library lines to the Computation Center were limited(16), the Libraries began a program of providing staff with terminals (Zenith Z19's) and dial up modems (Ventel MD212+) for use in their homes. A policy on Library computing equipment loans was established. For example, the Libraries will pay the installation costs of a separate telephone line in a staff member's home in order to avoid potential family conflicts with Library terminals and modems clogging up telephone lines. The staff member pays the monthly phone charges.

By providing home access to CMU computing facilities, the utilization of computing resources was accelerated. Contention for dial up ports in the evenings is less severe than for direct ports during the day. Furthermore, staff members could learn the systems at their leisure in the comfort of their homes without feeling that their initial experiences and often accompanying frustrations were public.

---

[1] Introduction to CMU Tops-20. 2v. Pittsburgh: Communication Design Center, Carnegie-Mellon University, 1982.

In the Spring of 1983, access to computing systems was greatly expanded. Hunt Library was wired for 56 lines, Engineering and Science expanded to 16 lines, and Mellon Institute received an additional line. Since the Library computer is housed in the Computation Center, the decision was made to provide sufficient access to both central computing and LS2000. Thirty one lines are dedicated to public terminals for the online catalog. The remaining lines are connected to the **Micom** port contention device thereby providing staff access to either LS2000 or the **Tops** systems. The Libraries now have sufficient capacity to provide one terminal workstation for every two full time employees. Connections and workstations have been added as time and funds permitted and all workstations will be in place by Fall 1984.

By Fall 1983, 35 staff members, or 58% of the staff, were trained on the University's systems. Instruction in the systems was expanded to a number of support staff as department heads identified uses and applications for text editing, electronic mail, and other support systems. 16 of the professional staff received terminal installations for their homes. Both text editing and electronic mail became indispensible tools in conducting library business.

Electronic Mail in the CMU Libraries

MS is the name of the CMU electronic mail system which resides on all **Tops** 20 systems. As library staff have obtained computer accounts, utilization of electronic mail has increased. With all professional staff on the system and a large number of the support staff, electronic mail has become a fundamental means of communication among the Library staff. The extensive distribution of the electronic mail system is evident by the inclusion of computer account addresses in the Library staff directory. A page from this directory is included in the appendix. The latest edition of the University Faculty/Staff Directory also includes computer account addresses to facilitate communication via electronic mail.

A file called "Mail.txt" is created in each user's directory. All incoming messages are automatically placed in this file. At logon, the system advises if messages have been received since the last logon. Users may also set their directories to receive notification of the receipt of messages while they are logged on. Using **MS** you can read messages in the "Mail.txt" file and perform functions such as sending mail to someone else, replying to the sender of the message, forwarding a message received to someone else, or deleting messages once read and no longer needed. A second file called "Out.txt" records all messages one sends. This permits a review of messages dispatched to follow up on non response. Messages can be transmitted to users on the same computer or any other computer in the network.

When you enter the **MS** system, you receive a list showing how many new messages you have, who they are from, and what they are about. If there are many messages, a few can be read and the others left to a later time. There are various ways to select certain messages. Appendix 2 includes a few sample electronic mail messages.

As you read each new message, you can either:

- Take no action upon it at that time,
- Reply to the sender,

- Forward the message to someone else,
- Flag it (that is, mark it as special for some reason),
- Copy it into a separate directory file for printing, or
- Delete it.

Other features of the electronic mail system include the ability to:

- Use the text editor,
- Define an address list so that messages can be sent to a group of users,
- Search message headers by keyword,
- Append groups of messages together, and
- Transfer files from one user to another.

Present Applications of Electronic Mail

Electronic mail is now being used extensively in the CMU Libraries for:

- Communications within the Administrative Group,
- The exchange of a variety of communications among Library staff,
- The distribution of committee agendas and minutes, and for
- General communications among system users, library staff, administration, faculty, and students.

Future Applications

A number of additional applications of electronic mail are being considered. The Libraries are planning to use electronic mail for:

- Intralibrary communications for book orders, claims, rush requests, cataloging problems, and other editing and service needs,
- Communication with faculty for book notification, book recall, and journal article copy service,
- Reference and information queries, particularly, when reference librarians are not available, and
- The assignment of work by supervisors to evening and weekend staff.

These future applications of electronic mail await further distribution of terminal capacity within the Libraries and the installation of LS2000 in Hunt Library. The LS2000 online catalog was installed in the Engineering and Science Library in March, 1984 and installation in Hunt is scheduled for the Summer of 1984.

LS2000 and Electronic Mail

CMU Libraries have been collaborating with Avatar Systems for the installation and development of the Avatar version of the Integrated Library System(ILS). With the acquisition of Avatar Systems by OCLC in December 1983, CMU will be installing release C of LS2000 in Summer 1984.

Prior to Avatar's acquisition by OCLC, CMU Libraries purchased ILS release 2.2 from the National Technical Information Service. ILS 2.2 includes software for electronic mail. CMU Library staff are now integrating this electronic mail system into its present version of LS2000, formerly Avatar's release B. Other ILS users are also using the mail system, e.g. University of Maryland Health Sciences Library.

Electronic mail within CMU's version of LS2000 is now being tested. A manual[2] is being prepared and training for a small group of users is underway. As staff training in LS2000 proceeds, staff will begin using the LS2000 mail system for internal communications rather than the University MS system.

The implementation of LS2000 electronic mail will improve general electronic communication among all levels of library staff by eliminating the contention problem for ports on the University computers which is becoming more of a serious problem with increasing use of central systems. The contention can be gotten around by logging on early in the morning or very late in the afternoon. With LS2000, electronic mail will be available at any time.

Supported by a grant from the State Library of Pennsylvania, CMU Libraries have been experimenting with the use of electronic mail systems for interlibrary communication among a small group of libraries in Pittsburgh. A programmer is presently working on the ability to transfer citations from the online catalog into the mail system to facilitate interlibrary lending among non-CMU users of the online catalog. The mail system will greatly facilitate communication among libraries authorized to dial up the CMU computer.

Linkages between the Library computer and the University computing system are planned to facilitate transfer of records from LS2000 to the TOPS systems and vice versa. A faculty member or student should be able to download citations from the online catalog to their own files on whatever computer they are a resident, or a microcomputer.

Advantages of Electronic Mail

CMU Libraries' experience with electronic mail has resulted in improvements in organizational communication. Communications between the Library, the University Administration, and the faculty have also improved. As a convenient alternative to telephone calls or written communication, electronic mail can enhance communication.

- The speed of communication is improved.
- Distribution is rapid and guaranteed.

---

[2] Diskin, Gregory. MII9-Mail User Manual. Pittsburgh, Carnegie-Mellon University Libraries, 1984

- Communication among staff is more frequent.
- Rapid response and resolution of problems is possible.
- Telephone interruptions are reduced.
- Queuing of mail responses is possible.
- A time stamped record of receipt and transmission is created.

After almost two years of experience with electronic mail with over 35 regular users a number of observations can be drawn from our experience at Carnegie-Mellon. In general, the speed and timeliness of communications are improved. The system provides a time stamped record of both transmission and receipt and mail files can be printed out for retention if desired. Messages can be distributed to a large group of staff and communication is simultaneous. Issues and problems can often be resolved rapidly. Work can be better organized because telephone interruptions are minimized. Staff have also found that communications are more frequent and the amount of consultation between and among levels of staff increases.

Problems of Electronic Mail

CMU Libraries experience with electronic mail has also identified a number of problems. These are:

- Machine dependency,
- Contention,
- File maintenance, and
- The need for a widespread distribution of terminals for electronic mail to be fully effective; not all staff, faculty, and administration are use the system, although the number is growing rapidly.

Electronic mail is machine dependent. As electronic mail begins to substitute for more traditional forms of communication, a widespread distribution of terminals among the staff is required. Until there is universal access to the systems, communications with all faculty is not possible. Contention for access to computing systems also impedes the effectiveness of electronic mail. There are simply more users than there are available ports, particularly during the day, resulting in queues to logon to the system. Library staff have learned to use the systems early in the morning, late in the afternoon, and in the evening when contention is less severe.

As CMU's plans for a campus network of microcomputers linked to one another and central computing resources are implemented, access to electronic mail will expand. In the meantime, the integration of an electronic mail system into LS2000 will permit universal access to an electronic mail system by library staff with limited access to the Library's electronic mail system for library related business by students and faculty. The Library's electronic mail system will be limited to staff communication and communications between library patrons and library staff. Library patrons will rely on the University system for electronic communications among themselves.

However, as people become heavy users of electronic mail other problems arise. Electronic mail files must be maintained. File storage is limited and mail files must be cleaned up from time to time. In addition, electronic mail should not be viewed as a substitute for all forms of traditional communication. Electronic mail is not well suited to lengthy communications. It is difficult to analyze, digest, and comment on documents viewed on terminal screens. Such documents tend to be printed and handled in the traditional way.

Problems of non-response are as commonplace with electronic mail as they are with written communication, only recipients of electronic mail messages cannot claim they didn't receive the message. Messages can be received and remain unread.

Confidential communications are not advisable. Passwords can sometimes be guessed and it is a simple mistake to send or forward a message to the wrong person.

On the whole the advantages of electronic mail and the improvements in organizational communication greatly outweigh the problems associated with extensive use of electronic mail, particularly if it is viewed as a complement to organizational communication, and not as a substitute for interpersonal communications.

Conclusion

CMU Libraries have been encouraged to experiment with central computing applications. Resources in terms of access to central computing resources, and the funds to wire the Libraries and purchase equipment have been provided generously by the University. The introduction of electronic mail has improved the understanding of computing and its applications among the Library staff and improvements in communication have resulted. The widespread participation by Library staff has helped create an environment responsive to technological change. The image of the Library within the University has greatly improved. And most importantly, the Library staff feel an integral part of the intense computing environment of Carnegie-Mellon.

Appendix 2

Sample Messages

Date & Time

```
MS)read last
 Message 223 (965 chars), received 29-Mar-84 10:46:14
Received: from CMCCTA by CMCCTC; 29 Mar 84 10:46:03 EST
Received: ID <JDSI@CMCCTA>; 29 Mar 84 10:48:48 EST
Date: 29 Mar 84 10:48:48 EST
From: Jill Diskin <JDSI@CMCCTA>
To: tmSJ@CMCCTA
cc: jdSI@CMCCTA
Subject: 24 Hour Library
```

Message

```
Peggy gave me her notes about this and I confirmed prices with Security.
The cost of hiring a security guard from midnight till 8 a.m. for the
period 4/29-5/11 would be $1150.  Peggy indicated that the students
had petitioned for all the floors to be open and not just the first
floor.

(Comment:  If our goal is to provide study hall facilities, I think
opening up the first floor only is adequate.  Staffing the floors with
student assistants all night long would be extremely difficult at this
time in the semester.  In addition, opening up all the floors in order
to provide library services, may open up the issue of 24 hour library
service in E&S sometime in the future.)
   --------
MS read))reply
Message (ESC to enter Send Level, ctrl-Z to send, ctrl-K to redisplay,
         ctrl-B to insert file, ctrl-E to enter editor, ctrl-N to abort):
```

Reply

```
Jill, ok on the expense.  We agreed to provide study facilities not
library services.  I suggest we provide floors 1 and 2 as we now do between
12:00 A.M. and 2:00 A.M. and shut off floors 3 and 4.

Please go ahead with the arrangements and appropriate signage.  John
Pane has volunteered to arrange for the appropriate publicity in the
Tartan.  I think they ought to run an ad for this.

Tom'Z
```

Message Filed

```
Processing mail...
Message filed in PS:<TMSJ>OUT.TXT.1 - OK
```

Message Transmitted

```
 JDSI at CMCCTA -- OK
MS read))
```

```
 There is 1 additional message:
N    224 29-Mar EM2F@CMCCTA                 (Agenda (773 chars)
 Currently at message 113.
 Message 224 (773 chars), received 29-Mar-84 14:37:24
Received: from CMCCTA by CMCCTC; 29 Mar 84 14:36:42 EST
Received: ID <EM2F@CMCCTA>; 29 Mar 84 14:38:22 EST
Date: 29 Mar 84 14:38:24 EST
From: EM2F@CMCCTA
```

Group of Users

```
To: TMSJ@CMCCTA, JDSI@CMCCTA, AM0C@CMCCTA, SY06@CMCCTA,
    MK72@CMCCTA, MS3T@CMCCTA, PF0A@CMCCTA, ME01@CMCCTA
cc: EM2F@CMCCTA
Subject: Agenda

                    ADMINISTRATIVE GROUP MEETING
                              AGENDA
                            APRIL 2, 1984

                PRLC Conference
                 Participation          -        Jill Diskin

                Summer Hours and
                 84-85 Academic
                 Year Hours             -        Jill Diskin

                Macintosh Discussion    -        Mark Kibbey

                Budget                  -        Thomas Michalek
   ---------
MS read))
```

Additional Message Received while On Line.

```
(You have a message from PF0A@CMCCTA)
```

MOUNTAIN-VALLEY LIBRARY SYSTEM
828 I STREET, 3RD FLOOR
SACRAMENTO, CA 95814
(916) 444-0926

February 8, 1984

The Mountain-Valley Library System has replaced its aging and limited Teletype system with an microcomputer based electronic mail system. The system is built around a software package called FORUM-80 and is located at MVLS headquarters running on a TRS 80 MODEL 4 microcomputer operating in a MODEL III mode. The telecommunications is handled through a HAYES SMARTMODEM at 300 Baud. Cost for the entire central site hardware, also including cables and a RADIO SHACK DMP-120 PRINTER, and software, including an abbreviated version of NEWDOS, was about $3,000. Microcomputers and terminals throughout MVLS will telecommunicate via a central hub configuration with the MODEL 4 at headquarters dedicated entirely to communications.

FORUM is a communications system that is actually a cluster of subsystems. It has functions for reading mail, entering messages, displaying a list of current users and for uploading and downloading programs. In order to use FORUM one switches from subsystem to subsystem. You can switch or repeat functions without logging off and you can get "help" messages from FORUM at any time by hitting the ENTER or C/R key.

The hub configuration permits equipment at System libraries to be used for other applications, as well as for telecommunications. It minimizes the number of calls a user must make to communicate with other users. Libraries need only call one location to communicate with all other members.

FORUM permits the generation of System-wide "bulletins" for all users without the need to address "mail" to them individually and it permits the use of different kinds of equipment and different screen formats as it individually tailors some communications variables for each user.

FORUM is self archiving and self auditing. It keeps its own statistical records that can be downloaded on demand. All messages are logged into an archival file and can be retreived by a user up to the time the file is dumped by the "system operator".

The principal limitations are that FORUM can hold 100 messages in memory at one time and that messages can be a

maximum of 1,024 characters in length. These have not been problems so far with MVLS. With fifteen users on the network the highest number of messages we have noticed in the system at one time is twelve. The bulletins also reduce the number of messages that would be sent to more than one user. Messages that are longer than 1,024 characters can be split and sent in two halves.

Bulletins can be placed and text files can be edited through word processing. ELECTRIC PENCIL is the recommended word processor. We Had problems getting PENCIL to run under NEWDOS but the distributor converted it for us and now it works well.

FORUM has an extensive security capability. Users and messages can be individually passworded. The entire network can be closed except to registered users.

FORUM is available from Small Systems Business Group, 6 Carlisle Rd., Westford MA 01886-5672. The documentation is limited but the vendor was helpful in installing the system. MVLS purchased only the "shell" NEWDOS operating system instead of the full priced version. The "shell" was completely udocumented. Potential users are advised to spend the extra for full documentation. Purchase of a word processor like "ELECTRIC PENCIL" (available from IJG, 1953 W. 11th St., Upland CA 91786 $89.95) is recommended for writing Bulletins and text files. SCRIPSIT files will work if "ZAPPED" by NEWDOS but we would not recommend mixing operating systems unless you are already skilled in NEWDOS.

Network performance after three months, 1,100 calls and 520 messages is excellent.

Mark R. Parker

Mark R. Parker
System Coordinator-Analyst

Cooperative Library Automation and Systems and Services

CLASS

1855 Budd Circle
Suite 100
San Jose, CA
95112-4698
(408) 286-7726

TO: Libraries Interested in CLASS OnTyme Electronic Communication Network for Libraries

FROM: Libby Trudell, CLASS On-Line Services

Thank you for your interest in the CLASS OnTyme electronic communication network. Enclosed you will find brochures describing OnTyme. To open your OnTyme account, just complete and return the enclosed User Group Agreement and Mailing/Billing form. CLASS membership is not required for participation in the OnTyme User Group.

As you can see from the enclosed list of participants, there are members of the CLASS OnTyme User Group throughout the United States. OnTyme costs are distance-independent, making it cost effective for communication within the local and regional area, long distance, and even for communication outside the United States. Connect time charges are low, only $3.00 per connect hour. It is possible to access OnTyme from almost any country in the world. If you or any of the libraries you wish to communicate with would like detailed on international access from particular countries, please ask us.

If you are exploring OnTyme as a communication device for interlibrary loan, please refer to the enclosed ILL Information Sheet. OnTyme provides significant cost savings over TWX or Telex for most ILL users. This sheet also provides details about conversion of a TWX machine for use with OnTyme and other equipment options.

Please don't hesitate to contact an OnTyme Coordinator at CLASS for more details on this service. We look forward to hearing from you soon.

Enclosures:

OnTyme Brochure
User Group Agreement
Mailing/dilling Form
ILL Information Sheet
Cost Sheet
Access Node List(Local)
CLASS Messenger flyer
OnTyme User List

rev. 1-83

CLASS, a cooperative public agency serving academic, public and special libraries

California Library Authority for Systems and Services

CLASS

1415 Koll Circle, Suite 101, San Jose, CA 95112-4609, (408) 284-1750

OnTyme accounts for Professional Association Committees

CLASS has established a special service for professional organizations in the library and information science field wishing to use OnTyme for intraorganizational communication. Through this service, professional groups can get subscriptions to OnTyme and provide their members with I.D.'s for accessing OnTyme. Each subscription can have up to 20 I.D.'s, as described in the attached price schedule.

There are some special administrative considerations for this type of OnTyme service. First, the members of the organization should use their OnTyme accounts only for internal business. If a need for communication with OnTyme users outside the group develops, group members should make arrangements for an OnTyme account through their own institution, at regular CLASS rates.

Second, the group must designate an official OnTyme Liaison, who will receive all OnTyme administrative communications from CLASS (including training and start-up information) and forward these communications to the other I.D.'s in the group. The OnTyme Liaison will also serve as a clearing point for system use questions from the other users in the group. Charges will be billed on a single invoice and sent to the Liaison.

You may also wish to consider how changes in committee or group membership are handled. If the user I.D.'s reflect the names of the committee members, it will be necessary to cancel I.D.'s and install new ones each time committee membership changes. There is a $25.00 administrative fee for each batch of changes to a group's I.D.'s. To avoid this, some organizations choose to open a block of I.D.'s without using personal names for the group and simply pass the I.D.'s from member to member. Using this technique, it is not necessary to install new I.D.'s as membership changes, therefore the administrative expense is not incurred.

When committee members who have been using the OnTyme system for committee business are no longer participants on that committee, they may wish to open an OnTyme account for other purposes. In this case, they will be eligible for a reduced annual subscription fee of $75.00 for the first year. Whether or not such a user decides to maintain a separate OnTyme account, the group account will be charged for maintaining the I.D. for one month after notification to CLASS of cancellation.

Most groups choose OnTyme I.D.'s that mnemonically represent the name of organization (e.g. LITA1, LITA2). Please let us know what abbreviation should be incorporated into all I.D.'s within your group. Most committees also maintain an online directory of the members of the committee as a shared file on OnTyme since members' I.D.'s are not listed in the general online CLASS OnTyme user list. A reference to this shared file can be included on the general user list if the committee desires.

ONTYME TOP-RATED EMS SERVICE

The March 15, 1984 issue of EMMS (Electronic Mail & Micro Systems) newsletter contains the results of a survey of electronic mail prices in the US and Canada. EMMS contacted the vendors of thirteen CBMS (computer based message system) services for their most current pricing information, and then worked up a monthly billing figure for a "typical" user. EMMS' typical user sends thirty-five messages per month, with an average length of two thousand characters per message. By assuming that all access is during regular business hours and at 1200 bps, and with all text composition and editing done online, the surveyors tried to "equalize" the numerous factors affecting pricing. The results for the systems used most often by libraries are given below:

OnTyme	$ 59.43 / month
ITT Dialcom	68.57
Telemail	70.10
MCI Mail	74.00
Source	102.12
Compuserve	138.33

All of the figures are based on normal business subscription fees, so do not reflect the price structures offered by various library networks or agencies (such as CLASS, ALA, OCLC and others). The EMMS survey also assumes a much longer average message length (2000 characters) than is needed by libraries, whose primary application is brief (300 characters) interlibrary loan requests.

EMMS, in reporting the results, cautioned users to evaluate more than cost alone in selecting an electronic mail system. Other factors, such as the features offered, may be more important to consider.

Reprinted from CLASSONLINE, June 1984
CLASS, 1415 Koll Circle, Suite 101, San Jose CA 95112 (408) 289-1756

CLASS ELECTRONIC MAIL SERVICE

Electronic Mail Service (EMS) provides rapid transmission of messages using a computer terminal. Combining the speed of a phone call with the capability to transmit text, EMS is a superior alternative to U.S. mail, telephone, Telex and TWX.

CLASS is now offering TYMNET's new electronic mail and message system, OnTyme-II, at a special group discount. Accessed by a phone call to your local TYMNET number, OnTyme-II is an efficient and inexpensive way to communicate, be it within the same town, across the country, or internationally. Any library may join the CLASS OnTyme-II Communication Network, which now includes more than 500 institutions. CLASS provides user assistance, training, and information to network participants.

OnTyme-II can be used to transmit any kind of message. The same message can be sent simultaneously to any number of users, which is particularly useful for library networks or cooperating groups. Information can also be shared by storing it in an online file. Some library applications are:

- Communication among members of committees, online user groups, etc.
- Intra-organizational communication among branches, campuses, divisions or other segments
- Reference question referral from local library to regional centers
- Announcements of meetings, news items, and cooperative activities

INTERLIBRARY LOAN APPLICATIONS

One of the most important applications of EMS for libraries is as a method for transmitting ILL requests. Libraries that have switched from TWX or TELEX to OnTyme-II report cost reductions of 40 to 50 percent. OnTyme-II also provides the capability for storage of ILL requests online for later retrieval or referral to another library. Cooperative library systems, ILL agencies and individual libraries can use OnTyme-II efficiently. The service requires no special communication line and can be used with almost any standard computer terminal, so start-up is quick and inexpensive. Advantages of OnTyme-II for ILL are:

- SPEED – Messages are ready for pick-up instantly
- COST – lower communications costs than TWX or TELEX, no need for ILL forms, labels, or envelopes
- EFFICIENCY – fast creation and editing of messages
- FLEXIBILITY – available via a wide range of equipment, including microcomputers, TWX, Telex and most communicating terminals
- RANGE – same cost and speed whether communication is nearby or long distance
- RELIABILITY – no loss of messages "in the mail"
- STORAGE – store messages for referral or statistical purposes

ONTYME-II COMMANDS

OnTyme-II is easy to learn and requires little start-up training. Most users need only the following simple commands:

:IN	Lists messages waiting to be read
:READ	Prints text of next message
:SEND	Transmits message to one or many recipients
:TYPE	Displays current message or text for editing
:CHANGE	Modifies or replaces portions of text or message
:FILE	Stores text or message as private or shared file
:GET	Retrieves file from storage

72

TERMINALS AND EQUIPMENT

Almost any general purpose computer terminal can be used to access OnTyme-II. Either CRT or printing terminals may be used, but a printer attachment for CRTs is recommended. The following features must be accommodated:

- ASCII character transmission
- Asynchronous communication
- 110, 300, or 1200 baud rate

ONTYME ELECTRONIC MAIL SERVICES

CLASS offers TYMNET's electronic mail and message system, OnTyme-II, at a special group discount. Accessed by a phone call to your local TYMNET number, OnTyme-II is an efficient and inexpensive way to communicate. Any library may join the CLASS OnTyme-II Communication Network. CLASS provides user assistance, training and information to network participants. Special rates are available for professional organizations and cooperative groups.

SUBSCRIPTION CHARGES

Standard Pricing

For one library opening an OnTyme subscription, there is an annual fee of $100, plus $10.00/month billing fee. The library may have up to four additional I.D.'s at a cost of $1.00/month per I.D.

Centralized Billing

For several libraries with a central billing point, there is an annual fee of $100 per institution, plus one $25.00/month billing fee to the central billing agency. Each subscription may have up to four additional I.D.'s at $1.00 each. There is no limit to the number of subscriptions which can be billed together.

Organizational Accounts

For library associations or groups (e.g. SLA, LITA), there is an annual fee of $100 per organization, plus $10.00/month billing fee. Each account may have up to 20 additional I.D.'s at $1.00 per month per I.D. These I.D.'s will not be included on the CLASS User list and the additional I.D.'s are to be used only for communication among members of the group, not to send messages to other OnTyme users. The group must designate a liaison to handle paperwork, changes to I.D.'s, requests for documentation, etc.

Documentation

Each subscription is provided with one set of documentation. Additional copies of the documentation are available for $10.00.

USAGE FEES

Terminal Connect Time (2 minute minimum connect time)	$ 3.00 per hour
Character Transmission	$ .25/1000 characters
User Data Storage	$ .01/1000 characters/day

For more information, please contact:

Online Services Coordinator
(408) 289-1756

Prices are effective as of 6/1/83 and are subject to change.

CISTI

Envoy 100™

Envoy 100 is a new national store-and-forward messaging service offered by CCG, The Computer Communications Group of the TransCanada Telephone System. The service was designed to meet the needs of the Canadian business community to effectively manage their ever-increasing flow of business information.

Envoy 100 provides a wide range of customer-selectable features and options, allowing users to prepare, correct, send, distribute, access and file messages destined within and between subscribing companies, retaining permanent records of important communications.

Envoy 100 is accessed by standard terminals and existing CCG services through the **Datapac** network. Terminals can serve multiple applications and access other devices of different speeds and types through the built-in compatability features of **Envoy** 100.

Envoy 100 frees users from the limitations imposed by time zones and the availability of recipients. Messages can be put into the system, anytime, from anywhere and held until the addressee is available, or optionally, messages can be delivered automatically to a specified terminal.

Envoy 100 is remarkably easy to use by everyone. Secretaries, managers, executives, sales and support personnel and others don't have to know computer language and can utilize the system with simple commands to increase their on-the-job effectiveness.

Envoy 100™ Rate Structure

Envoy 100's rate structure is based on the concept that messaging should be available to as many people as possible on a pay-as-you-use basis, much like today's public switched telephone network. Thus, **Envoy** features low monthly fixed charges that enable as many people as possible to use the system. Users do not have any minimum number of messages they must send monthly.

Tariffs for **Envoy** 100 are straightforward. The organization pays a monthly fixed rate, plus usage and storage charges. The monthly fixed rate to establish and bill accounts is $20 per month per organization, including the organization's administrator, plus $3 per user-ID signed on the system. As an example, a company with 100 users would pay $320 per month to belong to **Envoy** 100.

Usage

The usage charge is based upon kilocharacters (kc) which are sent to and from **Envoy** 100 by the message's originator, as well as kilocharacters which are sent to recipient(s) of the message. The sender pays to input the message and also pays for the message to be delivered. The usage charge is:

- 30 cents/kilocharacter for the first 15,000 kc/month/account,
- 25 cents/kilocharacter for the next 25,000 kc/month/account,
- 22 cents/kilocharacter for over 40,000 kc/month/account,
- 5 cents/addressee.

As an example, a 500 character message would cost the sender 15 cents to input into the system, 15 cents each time it is read and 5 cents per addressee. Thus, a 500 character (about 60 words) message sent to one addressee anywhere on the **Datapac** network would cost 35 cents. If sent to two addressees, it would cost 55 cents (15 cents for input and 20 cents for each addressee). Users also pay for all characters required to interact with **Envoy** 100.

Message Storage

The storage charge is one-half cent/kc/day. As an example, a 500 character message would cost about 7.5 cents per month to retain.

Billing

Each month, the organization receives a bill itemized to the user level which lists the number of sessions held, messages sent, kilocharacters used and stored, and the costs per user. In addition reports which itemize each message are available for a low extra cost.

National Library of Canada / Bibliothèque nationale du Canada

Canada

1984-2 May 1984

NATIONAL LIBRARY

TECHNICAL NEWS

Electronic Mail for ILL Messaging

ISSN 0820-8093

ELECTRONIC MAIL FOR ILL MESSAGING

ENVOY 100

The number of libraries subscribing to ENVOY 100, Telecom Canada's electronic mail system, is growing steadily. With the increasing use of this system for interlibrary loan messaging has arisen a need to identify the libraries using ENVOY for ILL so that they can be contacted.

The following is a cumulative list of libraries that are using ENVOY for ILL messaging, their user ENVOY IDs and their Canadian library symbols. This list is by no means exhaustive, but rather contains the names of libraries we've heard about through the grapevine.

When deciding on your user ID, please remember that the inclusion of your Canadian library symbol in your ILL ID will enable other Envoy users to identify your institution correctly. The suggested format is "ILL" followed by ".", and then followed by the Canadian library symbol, e.g., ILL.MWU, ILL.AEU .

iNet 2000

iNet 2000 subscribers are no longer members of a closed user group as was the case during the iNet field trial. Subscribers can now use iNet MESSAGING to send messages to and receive messages from ENVOY 100 users. They can also access all scripts registered to ENVOY user ID's. iNet 2000 user ID's will be included in this publication.

INTERLIBRARY LOAN SCRIPTS

ill scripts are available not only for the National Library and CISTI but also for the libraries at Dalhousie University. To access them, enter 'COMPOSE' and the appropriate script name:

Library	Script name
MacDonald Science Library (NSHD)	ILL.MACDONALD
Killam Memorial Library (NSHD)	ILL.KILLAM
W.K. Kellogg Health Sciences Library (NSHDM)	ILL.KELLOGG

* * *

If your library is using ENVOY 100 or iNet 2000 for ILL communication and you would like to let others know, please send a message via ENVOY or iNet to user ID FA.TURNER and include the full name of your institution, the user ID and the Canadian library symbol assigned to your library.

LIST NOT INCLUDED IN KIT

84

ELECTRONIC MESSAGING SERVICE FOR ADMINISTRATIVE PURPOSES

Technical News will be offering as a new feature identifications for electronic messaging services used for administrative purposes.

This list will become more complete as new identifications are received. Institutions wishing to submit their electronic messaging service identification used for administrative purposes should have their institutional coordinator send their listing to Marie Duhamel, editor, National Library Technical News, National Library of Canada, 395 Wellington Street, Ottawa, Canada K1A 0N4, or if you have access to ENVOY 100, please send to ENVOY User ID: DUHAMEL.M .

This list is cumulative.

ENVOY 100

Institution	ENVOY ID
National Library of Canada	

The National Library has recently become one of 34 federal government departments and agencies participating in the Government Electronic Message Service (GEMS) within the framework of the ENVOY messaging service. In adhering to GEMS, the National Library has found it necessary to modify its user IDs; from now on, the name will appear first, followed by a period, and the initial.

-Anand, Havelin Chief, Lending Division	ANAND.H
-Archambault, L. Secretary, Public Services Branch	ARCHAMBAULT.L
-Balatti, David Chief, Subject Analysis Division	BALATTI.D
-Bellfoy, Richard Head, Systems Control Section Library Systems Centre	BELLFOY.RF
-Bergeron, André Administrative Officer Library Systems Centre	BERGERON.A
-Bériault, Jean-Eudes Network Officer Office for Network Development	BERIAULT.JE
-Blair, Rolande Assistant Director - Interlending Public Services Branch	BLAIR.R
-Boucher, Yvon Executive Assistant - Administration Office of the National Librarian	BOUCHER.Y
-Brodie, Nancy Assistant Director - Reference Public Services Branch	BRODIE.N
-Buchinski, Edwin Assistant Director - Networks Office for Network Development	BUCHINSKI.EJ
-Burns, Barrie Special Project Officer Administration	BURN.BA
-Campeau, Donna Administrative Assistant Office of the National Librarian	CAMPEAU.DL
-Carboni, C. Head, Order Section Collection Development Branch	CARBONI.C
-Carver, Richard Chief Public Relations Office	CARVER.RE

85

LIST NOT INCLUDED IN KIT

News Release: American Library Association

Public Information Office
American Library Association
50 East Huron Street
Chicago, Illinois 60611
312 944-6780

From: Sandra Lieb
Peggy Barber, Director
Public Information Office

FOR IMMEDIATE RELEASE

May 1984

ALANET OPENS TO INDIVIDUALS, ALL ORGANIZATIONS

ALANET, the American Library Association's new electronic mail and information service, is now open to personal members of ALA and to nonmember organizations. Participation in the network had originally been offered only to ALA organization members, but now any organization or ALA personal member can subscribe. Since ALANET's inauguration January 1, 1984, over 350 "mailboxes" have been activated, representing all kinds of libraries, suppliers, state agencies, ALA units and individuals.

Besides electronic mail, ALANET offers a number of electronic newsletters, including ALA WASHINGTON NEWSLINE, INTELLECTUAL FREEDOM ALERT, and ALA NEWS BULLETIN. The system provides interactive forms for interlibrary loans, book orders, and conference registrations, ALA conference program schedules, and several additional databases--OFFICIAL AIRLINES GUIDE, ELECTRONIC NEWS (UPI/AP), and UMI ARTICLE CLEARINGHOUSE. New services in preparation include a system-wide bulletin board, electronic newsletters by library suppliers, and additional outside databases. Subscribers can obtain computer equipment and terminals at a discount.

- more -

ALANET OPENS TO INDIVIDUALS, ALL ORGANIZATIONS--add one

A sign-up fee of $30 starts an ALANET subscription, plus an annual billing fee of $90 ($7.50 per month paid in advance). The nonmember organization subscription fee is $100, but is refunded upon joining ALA. Organizations are billed, while individual subscriptions are by Visa or MasterCard. Use charges are based on connect time and text storage, and with rates starting at $17 per hour at prime time ($13 nonprime time), the service is quite competitive with other systems. ALANET's computer services are provided by ITT Dialcom, Inc., of Silver Spring, MD, a system accessible by all major telecommunications networks, and known for its sophistication, flexibility and responsiveness.

For more information on ALANET and a subscription form, contact Joel M. Lee, ALANET System Manager, ALA, 50 E. Huron St., Chicago, IL 60611 (312/944-6780).

- 30 -

ALANET electronic mail and information service

ALANET, an electronic mail and information network, brings an added dimension to the resources of ALA organization members. Now you can instantly communicate electronically with libraries, suppliers, library associations and other subscribers across the United States and Canada.

"Lost in the mail" will cease to be a complaint as you receive messages seconds after they have been sent. Using almost any computer terminal, you can access databases including:

- ALA News Bulletin
- ALA Washington Newsline
- electroCitations: ALA Publications News
- PR Power Tools: ALA Graphics
- Conference '84 Program Schedules
- Intellectual Freedom Alert
- Online orders for publications, graphics, conference registrations
- Official Airlines Guide
- UMI Article Clearinghouse (online listing of thousands of periodical articles)
- United Press International

ALANET allows you to communicate directly with ALA Headquarters in both Chicago and Washington, D.C., follow legislation affecting libraries, and receive and transmit information vital to ALA members.

Since ALANET's computer-based services allow dial-up access via the telecommunications networks you already use – Telenet, Tymnet, Uninet and TWX – you can begin online access immediately.

ALANET questions and answers

Who provides ALANET's computer-based services?

ITT Dialcom, Inc., a leader in electronic communications serving organizations including the American Bankers Association, American Bar Association, Travelhost, and the U.S. Department of Education.

What equipment is needed?

Almost any terminal can communicate with the system, with dial access through all major telecommunications networks now used by many libraries. ALA organization members without computer terminals or those wishing to upgrade their systems, are eligible to receive discounts on computer hardware arranged by ALA.

Who is eligible to subscribe to ALANET?

Only ALA organization members can subscribe to ALANET.

What training is required for ALANET?

ALANET uses simple English language commands so even those inexperienced in data processing can quickly learn to operate the system with a self-help guide. Training materials and information, including online instruction and help messages, will be provided by ALANET staff and by ITT Dialcom.

What are the system's immediate benefits?

ALANET allows you to communicate directly with ALA Headquarters, other subscribers and with the vendor community. Starting with an online directory of subscribers you can create your own distribution lists so you can simultaneously "reach the mailbox" of hundreds of libraries across the country. ALANET will facilitate interlibrary loan and information services, as well as purchases and other business communications. Local, national and international networking activities will be possible with ALANET, ranging from local electronic bulletin boards to national-level calls for action on legislation or other issues.

When will ALANET be online?

The system will be fully online January 1, 1984, although electronic mail and test files of all databases in the ALANET Information Menu are currently operational.

Has ALANET been tested by ALA?

Yes. The Executive Board of ALA and several ALA units have been conducting much of their business electronically for over a year, and the Board began using ITT Dialcom in May, 1983.

Can ALANET be adapted to specific needs?

The varied capabilities of ALANET should meet nearly all subscriber needs. If your organization has special needs or unusual applications, ALA and ITT Dialcom will be happy to work with you.

What are the initial costs to subscribe to ALANET?

A one-time sign-up fee of $30.00 starts a subscription to ALANET and provides up to 3 IDs and passwords, account and mail directory set-up, and training materials. A $7.50 monthly billing fee ($90.00 paid annually in advance) covers account maintenance.

ALA will invoice subscribers monthly for their use of the system, based on connect hour costs ranging from $15.50 to $18.50 per hour.

What is the average subscriber's use per month?

The average is 3 connect hours per month.

Does the system have text editing capabilities?

ALANET, through ITT Dialcom, offers all major text editing operations including pagination, justification, hyphenation and a 52,000 word dictionary for spelling checks.

To whom should I write for more information?

Contact ALANET System Manager Joel M. Lee, ALA Headquarters Library, 50 E. Huron St., Chicago, IL 60611 (312) 944-6780.

Yes! My organization is interested in subscribing to ALANET. Please send detailed cost information and a subscription form to

Institution

Attention

Address

City/State/Zip

☐ My organization is not a member of ALA. Please send organization membership application form.

Return this card to: ALANET System Manager
American Library Association
50 E. Huron St.
Chicago, IL 60611

American Library Association 50 East Huron Street Chicago, Illinois 60611 312 - 944-6780

BASIC EQUIPMENT REQUIREMENTS FOR ACCESS TO ALANET

The following information was prepared for ALANET subscribers by ITT Dialcom, Inc., providers of ALANET's computer servives:

You can use almost any brand or model of asynchronous ASCII coded terminal, microprocessor or communicating word processor with ITT Dialcom, Inc. as long as you have:

-- A communicating terminal
-- A modem
-- A telephone line

TERMINAL

You may use any dumb terminal, printer, personal computer, microprocessor or word processor which communicates in asynchronous, ASCII code. If you have a word processor, microprocessor or personal computer, be sure that you get a communications software package. (Talk to your hardware dealer.)

ITT Dialcom can be accessed at either 300 or 1200 baud (the speed at which the information is transmitted:, i.e. 30 characters per second or 120 characters per second.) Most terminals can communicate at either 300 or 1200. Make sure that if you choose to communicate at 1200 baud that you have a 1200 baud modem as well.

TERMINAL FEATURES

CONTROL KEY -- A control key allows you to have a non-printing password, an added security feature. It alro allows you to send certain signals to the computer controlling the transmission of information. While not required, a control key is highly desirable.

BREAK KEY -- The break key allows you to interrupt the program. This is a very important feature. On most terminals it can also be simulated by a control P.

MODEM

Your terminal and the computer are connected via the telephone line and your modem. The modem translates signals from your terminal into signals that may be transmitted over the phone to and from the computer. You may have an acoustic coupler, which has cups in which you insert the phone receiver, or a dataset with buttons on the front. In some microcomputers, the modem is a board that is inserted into the machine. In any case, it should have instructions for establishing a connection.

Your terminal may have a modem built in, in which case you would just plug the phone jack into the back of the terminal. The modem can be any brand, but if it is 1200 baud it must emulate the Bell 212A or Vadic 3400 protocol.

TELEPHONE LINE

We recommend that you use a line which does not go through your centrex or PBX. This cuts down on line noise problems.

COMMUNICATIONS PROTOCOL

The correct protocol for communication is ITT Dialcom is 1 start bit, 7 data bits, 1 parity bit and 1 stop bit. This gives a total of ten bits per character. You may not have a setting for start bit, as almost all protocols use one start bit, and that is set within your terminal. Also, the parity bit and data bit are often combined into 8 data bits. Experiment with different settings if you are having trouble connecting.

TERMINAL AND MODEM SETTINGS

The following settings are used by ITT Dialcom. They may be set by a series of switches on your terminal and/or modem, or they may be part of a communications menu.

Synchronous/Asynchronous -- choose ASYNCHRONOUS. ITT Dialcom communicates ONLY in an ascii, asynchronous mode.

Duplex -- choose FULL . Half duplex will give you double letters on your terminal.

Parity -- choose NONE. If you don't have this option, experiment with different settings until you find one that works.

Xon/Xoff -- set this to ON This creates a buffer that keep you from losing information.

Auto Line Feed -- choose OFF. ITT Dialcom transmits both a carriage return and a line feed automatically.

Block Mode -- choose OFF. ITT Dialcom communicates only in conversation mode, which may also be called online or character mode.

APM/Answerback -- choose OFF.

If you need additional information or are having equipment problems, please contact ITT Dialcom at 301-588-1572.

12/14/83

EDUNET NEWS

ISSN: 0146-1788 NUMBER 31, SPRING 1984 N.200.019

BITNET/MAILNET access via EDUNET

In addition to the wide variety of resources residing on EDUNET Supplier systems, EDUNET users also have access to Suppliers' networking facilities. The BITNET and MAILNET electronic mail networks, for example, are widely available to faculty, administrators, and researchers through EDUNET.

BITNET began in 1981 when The City University of New York connected to Yale University. Today, BITNET includes over 60 U.S. universities and 160 computers linked by leased telephone lines. Links to European sites are being planned, as are gateways to other networks. The network is open to any college or university for either academic or administrative purposes, with computers that support IBM's RSCS (Remote Spooling Communications Subsystem).

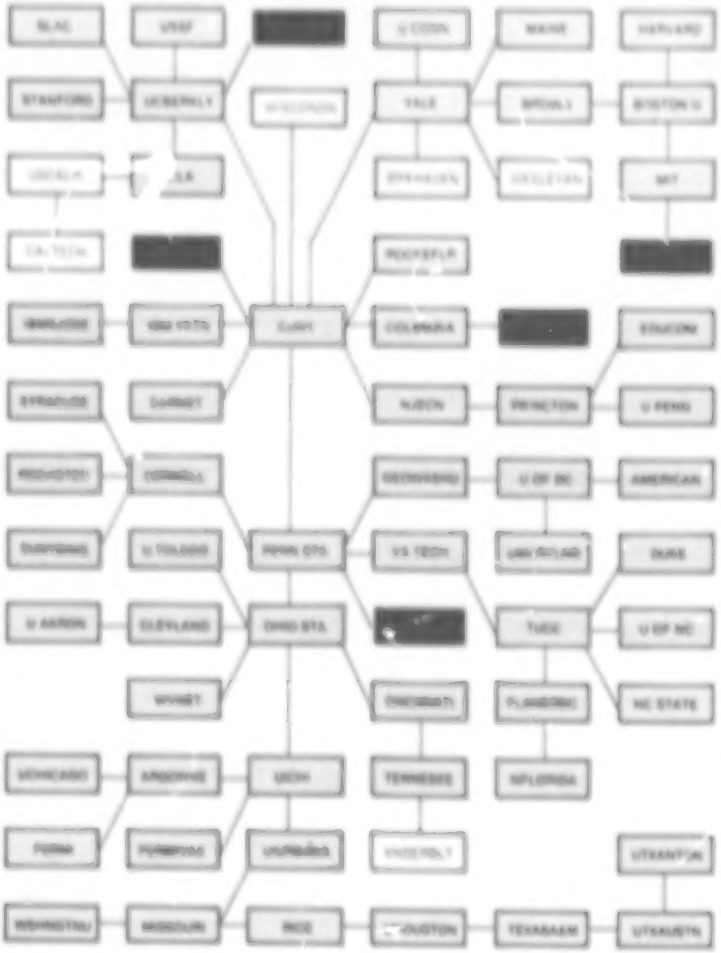
EDUNET Suppliers with connections to BITNET include

- Carnegie-Mellon University
- City University of New York
- University of Chicago
- Cornell University
- Massachusetts Institute of Technology
- University of North Carolina
- Rice University
- Stanford University
- Yale University

Faculty, staff, and students at EDUNET member institutions can use accounts at any of these schools to communicate with users at other BITNET sites or to access BITNET help facilities, user directories, and information files. Output from one facility can be sent to another, perhaps closer, site for printing.

MAILNET, an intercampus electronic mail network designed to provide low-cost communication among all types of computer systems, was created as a joint project of EDUCOM and the Massachusetts Institute of Technology with funding from the Carnegie Corporation. MAILNET currently links twenty-one colleges and universities in the U.S. and Europe. MAILNET gateways into other networks allow users to send messages to colleagues at the 60 BITNET sites, the 90-site CSNET network of computer science researchers, and the 200 computers linked via the Joint Network.

(Continued on Page 2)



In the above BITNET topology, gray-screened blocks depict existing BITNET members, white blocks show pending sites, and black blocks represent gateways to other networks. For a full name listing of all BITNET sites as of April, see *EDUCOM Bulletin*, Spring 1984, p. 20. EDUCOM's connection to BITNET is a leased line to Princeton University, while MIT acts as the gateway between the 21 MAILNET member institutions and BITNET.

EDUCOM on BITNET

On 12 April, EDUCOM/EDUNET became an official BITNET site. Using EDUCOM's VAX 11/750 staff can now send messages to colleagues at any BITNET member sites.

Users at BITNET sites can send messages to EDUCOM/EDUNET staff members by addressing them to username@EDUCOM, where the username is the first eight characters of the person's last name. □

BITNET

(Continued from Page 1)

Team network. MIT acts as the gateway between MAILNET and BITNET.

Access to MAILNET is available through these EDUNET Suppliers:

- Carnegie-Mellon University
- Massachusetts Institute of Technology
- University of Michigan
- New Jersey Institute of Technology
- Stanford University
- Stockholm University Computing Center
- Wayne State University

With an EDUNET account, users at institutions not part of the MAILNET or BITNET community can communicate electronically with colleagues at over 300 universities in the U.S., Canada, and Europe. EDUNET also provides the opportunity for schools thinking of joining one of the university networks to use them and compare their facilities before making a decision.

For more information about using networking facilities through EDUNET, contact Mike D'Amore at EDUCOM (609-734-1878). EDUNET members that would like information about using networks at a particular Supplier institution should contact that school's EDUNET Liaison. □

CONFERENCE LINEUP

LOCAL AREA NETWORKS FOR COLLEGES AND UNIVERSITIES (EDUCOM)
June 5 — Chicago
June 25 — Cambridge
Contact: Kathy Schaible, PO Box 364, Princeton, NJ; (609)734-1549; (609)734-1915

ELECTRONIC MAIL SYSTEMS & INTERCAMPUS COMPUTER NETWORKS (EDUCOM)
June 6 — Chicago
June 26 — Cambridge
Contact: Kathy Schaible, PO Box 364, Princeton, NJ; (609)734-1549; (609)734-1915

FACULTY COMPUTER LITERACY: PROGRAM DEVELOPMENT AND IMPLEMENTATION (EDUCOM)
June 7 — Chicago
June 18 & 19 — Princeton, NJ
Contact: Kathy Schaible, PO Box 364, Princeton, NJ; (609)734-1549; (609)734-1915

SECOND ANNUAL INSTITUTE ON TELECOMMUNICATIONS IN HIGHER EDUCATION (NEW YORK UNIVERSITY)
June 4-8—New York
Contact: Helen J. Kelly, Director, Center for Career Advancement, New York University, 32 Washington Place Room 60, New York, NY; (212)598-2772

FACULTY DEVELOPMENT INSTITUTE RETRAINING IN COMPUTER SCIENCE
June 11-30—Wheaton College
Contact: NERComP, Inc., 439 Washington Street, Braintree, MA; (617)848-6494

NECC '84
June 13-15 — Dayton
Contact: Lawrence A. John, Computer Science Dept., University of Dayton, Dayton, Ohio; (513)229-3831

FOURTH ANNUAL NOTRE DAME SHORT COURSE SERIES — COMPUTERS IN SOCIETY
June 18-22—Reno, Nevada
August 13-17—The University of Notre Dame
Contact: Theodore J. Crovelli, Biocomputing Shortcourses Coordinator, Department of Biology, The University of Notre Dame, Notre Dame, Indiana; (219)239-7496

THE FIRST INTERNATIONAL CONFERENCE ON COMPUTERS AND APPLICATIONS
June 20-22—Peking, China
Contact: E.A. Parrish, Dept. of Electrical Engineering, University of Virginia, Charlottesville, VA; (804)924-3960

AMERICAN COLLEGE IN PARIS — WORKSHOP ON COMPUTER LITERACY
June 18 — Paris (runs for three weeks)
Contact: David Masters, Chairman, Dept. of Computer Science, American College in Paris, 31 avenue Bosquet, 75007 Paris, France

NATIONAL COMPUTER CONFERENCE
July 9-12—Las Vegas
Contact: AFIPS, 1899 Preston White Drive, Reston, VA; (703)620-8900

ISSUE 1984 NATIONAL CONFERENCE
July 15-18—Chicago
Contact: ISSUE, 444 North Michigan Ave., Chicago, Illinois; (312)329-2400

SIGGRAPH '84
July 23-27 — Minneapolis
Contact: Richard Munger, Control Data Corporation, PO Box O, Mail Zone HQC02D, Minneapolis, MN; (612)853-5615

Electronic conference participation through MAILNET

MAILNET now offers convenient "home delivery" of electronic conference entries for participating EDUNET members. Stockholm's QZ Computing Centre will be the first to offer this service.

Here's how it works. Users wishing to receive direct delivery of conference entries contact their EDUNET liaison to request a "MAILNET delivery" account on COM, QZ's conferencing system. Once the account is set up (usually in a week or so), any requested conference "back issues" are sent via MAILNET to the account holder. As new entries are added to the conference, they are automatically routed to the user's local mail system via MAILNET. Participants can likewise contribute entries to COM conferences from their own terminals using MAILNET. (Interested parties should see the Fall/Winter *EDUNET NEWS*, page 6, for a partial listing of conferences over COM.)

By using the automatic delivery system, conference participants have no need to log in frequently and check for new entries. Furthermore, this system assures that new entries are received in a timely manner — users won't miss important, newly arrived conference information because they don't have time to log into the conference itself. Of course, participants can log onto the conferencing system directly to use the powerful searching or retrieval commands to locate past entries, or to explore other interesting conferences on a less regular basis.

Each month, the user is billed through EDUNET for charges associated with delivery of messages and direct use of the system. For most users, the charges for participation through MAILNET will be less because the user won't be charged for time normally required to retrieve and print messages. Because text is automatically stored in the user's local system in machine-readable form, it can also be shared, stored, and retrieved using local computer utilities.

QZ is developing advanced software that would allow users to selectively request entries in conferences over MAILNET, and perform other remote conference functions. For more information on electronic conference participation through MAILNET, contact EDUNET Central at (609) 734-1878. □

MAILNET Status Report
March 1984

The sixth month of MAILNET operation has just ended. Since the operational phase of the project began on September 1 of last year, 1310 users have sent over 18,000 messages via MAILNET to sites across the U.S., Canada, and Europe.

Nineteen sites are currently in production:

Carnegie-Mellon University
University of Chicago
Dickinson College
University of Durham (U.K.)
EDUCOM
Grinnell College
Iowa State University
Massachusetts Institute of Technology
University of Michigan
Simon Fraser College (Canada)
University of Alberta (Canada)
University of British Columbia (Canada)
Wayne State University
New Jersey Institute of Technology
University of Newcastle upon Tyne (U.K.)
Northwestern University
Stanford University
Stockholm University QZ Computing Center
Rensselaer Polytechnic Institute

The University of Southern California has just completed testing its MAILNET interface and will be added to the operational list within the next few days. The University of Wisconsin--Madison has put full time staff on implementing their MAILNET interface and should be up shortly.

In addition, MAILNET gateways provide access to over 300 sites connected to other university and research networks, including

- BITNET - Universities linked using IBM's RSCS protocol for file (and electronic mail) transfer. MIT's Honeywell and IBM machines communicate to provide the gateway to this network, which now includes some 50 universities.

- CSNET - Network of over 90 computer science departments, some of which use the 'Phonenet' and MMDF protocols on which MAILNET is based.

- JNT-Mail - The British Joint Network Team network connecting over 200 colleges and universities in the U.K. The University College of London is completing implementation of their MAILNET interface and will act as the gateway to this network.

With day-to-day operation of MAILNET running smoothly and usage continuing to grow, increased attention is being given to user services. Several schools have circulated directories of faculty addresses to encourage users at other schools to strike up electronic conversations with their peers, and the University of Stockholm began a "penpals" conference in which individuals describe their interests and the type of "penpal" they wish to correspond with. Both the University of Stockholm and the New Jersey Institute of Technology will soon be offering MAILNET subscriptions to their wide variety of electronic conferences, on topics ranging from nitrogen fixation to Japanese 5th generation computers. Instead of logging on to a remote system to participate in these conferences, subscribers will receive and write all conference entries as MAILNET messages on their local electronic mail systems.

Experienced MAILNET implementors will be making presentations around the country this spring to inform administrators about MAILNET and assist new subscriber schools with their implementations. Electronic Mail and Networks Seminars are scheduled for the following cities: Washington, D.C. (May 22), Chicago (June 6), San Francisco (June 13), and Boston (June 26). A one-day MAILNET Implementation Workshop will follow the Boston seminar. MAILNET presentations are also planned for the SIGUCCS meeting in St. Louis (March 20-23) and CUMREC in Toronto (March 31-April 2).

MAILNET continues to be one of the least expensive networking alternatives available to higher education institutions. Member schools are charged a one-time implementation fee, a monthly service fee, and usage charges. The one-time implementation fee of $2000 includes advice on implementation strategy, assistance in finding and sharing interface code, sample source code, participation in an implementors group, and testing time and assistance on the MIT computer. The monthly service fee of $170 includes two daily connections, daily connection reports, monthly accounting detail, and operational diagnostics and trouble-shooting. The usage charges are based on the number of messages actually sent each month. To date, over half of all MAILNET messages sent have cost less than 20¢.

With the increased number of experienced MAILNET implementors participating in the EDUCOM Consulting Group and implementation workshops for new subscribers, assistance with MAILNET implementation is widely available. In addition, several member schools have made inexpensive, off-the-shelf interface software available to new subscribers, including interfaces to such widely used systems as DEC VAX, PDP-11, 10, and 20 systems.

All of these factors combine to make a MAILNET connection a very valuable, yet simple and inexpensive, opportunity for colleges and universities to get involved in networking and link to higher education institutions around the world.

educom

p o box 364 princeton new jersey 08540
phone (609) 734-1915

What is MAILNET?

MAILNET is EDUCOM's intercampus electronic mail network, designed to provide communication between all types of computer systems at low cost and with little technical effort. Users create, send, and receive MAILNET messages directly, using their local electronic mail systems. At least twice per day, the MAILNET relay computer (the Honeywell MULTICS machine at MIT) places a direct-dial call to the local system, logs on, picks up any outgoing mail, and delivers any incoming mail. If an institution already has a Telenet or Tymnet connection, the MAILNET relay can use those facilities to transmit mail.

No new hardware, no operating system modifications, and no significant changes to the local mail system's user interface are required for participation in MAILNET. The MAILNET relay and local system communicate using standard communications protocols. Inexpensive, off-the-shelf interface software is available for various local systems, including DEC VAX and PDP-11 systems.

MAILNET institutions are charged a one-time implementation fee, a monthly service fee, and usage charges. The one-time implementation fee of $2000 includes advice on implementation strategy, assistance in finding and sharing interface code, sample source code, participation in an implementors group, and testing time and assistance on the MIT computer. The monthly service fee of $170 includes two daily connections, daily connection reports, monthly accounting detail, and operational diagnostics and trouble-shooting. The usage charges are based on the number and length of messages actually sent each month. To date, 80% of all MAILNET messages sent have cost less than $0.20.

Currently, 19 sites across the U.S., Canada, and Europe are connected to MAILNET. In addition, MAILNET users can send messages to over 300 sites connected to other university and research networks through several MAILNET gateways, including

o BITNET - Universities linked using IBM's RSCS protocol for file (and electronic mail) transfer. MIT is acting as the gateway into this network, which now includes some 50 universities.

o CSNET - A network of over 90 computer science departments, some of which use the 'Phonenet' and MMDF protocols on which MAILNET is based. Negotiations for this gateway are taking place, and we hope to announce details shortly.

o JNT-Mail - The British Joint Network Team network of over 200 universities in the U.K. The University College of London is the JNT-Mail gateway.

Since the operational phase of the project began on September 1 of last year, 1310 users have logged over 18,000 messages via MAILNET. With more sites entering regular production, including several gateway sites, usage is expected to grow even more rapidly over the next few months.

MAILNET was developed as a joint effort of EDUCOM, MIT, and 15 pilot sites with pilot phase funding from the Carnegie Foundation. For more information about participating in MAILNET, contact Candice Willut at EDUCOM, 609-734-1878 (CWillut.MAILNET@MIT-MULTICS.ARPA, CWILLUT on Telemail).

1200 RT7 • LATHAM • NEW YORK 12110 • (518) 783-1161

December 1, 1983

Dear BRS Subscriber:

BRS will soon be providing you with direct access to MCI Mail -- the "nation's new postal system." By simply entering MAIL as a BRS database label, you will be automatically routed into the MCI Mail network.

WHAT IS MCI MAIL?

MCI Mail is an electronic post office. When signed on to MCI, you can compose and edit a letter, memo, report, or contract of any length and then send it to ANYONE, ANYWHERE in the continental U. S. Your message can be sent:

* instantly to the terminal of any registered MCI user.

* to an MCI postal center to be printed by a laser-printer on high-quality white bond paper and delivered overnight by noon, in four hours, or the next day by the U. S. Postal Service.

* to a telex address anywhere in the world.

HOW DO I SIGN UP?

Each registered user will be identified in the MCI Mail System by first initial/s and last name, e.g., JSmith. MCI also requires some additional user information in order to ensure that mail is always delivered correctly: a full name and postal address, a telephone number and a completely unique identifier which is selected by the user. MCI suggests that this identifier be the user's mother's maiden name, but any user-identifier can be submitted. It will serve as identification when a user calls MCI for information about an account.

TWX 710 444 4965

BRS will register BRS users with MCI by sending MCI the most current and complete information that we can pull from each user's Master Record. This information will be supplemented where possible with user-supplied changes and additional information.

Thus, BRS/MCI registration is a two-step process. First, BRS has already compiled the most current and complete information that we can gather from each user's Master Record. Secondly, users now have the option of signing on to a special BRS online database called "The MCI Registration File" to view and correct or add to this information. Of course, there will be no connect hour charges except telecommunications to access the Registration File.

Before explaining how to use the special BRS/MCI Registration File, a little background in how BRS has gathered the basic user information will be helpful. In the absence of any input from users, BRS will register BRS users with MCI by sending MCI the SEARCH ANALYST name, the OFFLINE MAILING ADDRESS and TELEPHONE NUMBER from the Master Record of each BRS password.

The OFFLINE MAILING ADDRESS will be stripped of the name and SEARCH ANALYST name inserted. This has to be done for two reasons:

* Only the SEARCH ANALYST name is formatted in a manner that reliably allows us to computer-generate the MCI name.

* More than one MCI registration per organization is possible only if individual SEARCH ANALYST names are used rather than a common OFFLINE MAILING ADDRESS name. A further explanation of this appears below.

Because the SEARCH ANALYST name will be computer-formatted by BRS to fit the MCI standard, inflexible conversion rules apply. Thus, if the SEARCH ANALYST field in your Master Record appears as:

SMITH/JANE/BETH

you will be registered as:

JSMITH

If, however, your name appears in the Master Record as:

SMITH/DR.WILLIAM

you will be registered as:

DSMITH

If no SEARCH ANALYST appears in your Master Record and you do not sign on to the special Registration File to enter your name, YOU WILL NOT BE REGISTERED.

Institutions having more than one password but which maintain only one SEARCH ANALYST name for all the passwords, should use the Registration File to enter different names for different passwords to allow as many of your searchers as possible to be registered with MCI. There is no charge associated with MCI registration. If your organization has multiple passwords all with an identical SEARCH ANALYST name and identical OFFLINE MAILING ADDRESS, then only one registration will be made to MCI unless you use the Registration File to enter additional names.

The password we choose to register with MCI in the event of multiple passwords with identical names will be the lowest numeric or alphabetic password assigned. For example, password BBB001 from the group BBB001-BBB005; or BBBAAA from the group BBBAAA-BBBABB. You will have access to MCI Mail only with the registered password.

HOW DO I USE THE BRS/MCI REGISTRATION FILE?

To verify or change your MCI Registration for a particular password, simply use that password to sign on to the BRS database MCIR:

ENTER DATABASE NAME ___: mcir

Once signed on to MCIR, you will be prompted through a very simple series of questions about your registration. If you run into any problems with these questions, simply enter CANCEL; your registration information will be retained as it was before you entered the MCIR file and you will be asked to ENTER DATABASE NAME ___: for the next database you wish to search. If you wish to sign off and call Customer Service for assistance, you can do so after a CANCEL by entering the BRS ..OFF Command.

Remember that if your institution has more than one password, you should sign on to MCIR one time with each of your passwords to verify or change the registration information for each password.

BRS will be creating the initial enrollment list for MCI on December 31, 1983. Please take a moment before that date to sign on to MCIR and verify your Registration.

MCI will remain online at BRS permanently and you will be able to change your Registration information at any time in the future. We will date-stamp each change you make in MCIR and send regular update tapes monthly to MCI.

HOW DO I START USING MCI MAIL?

Once BRS has sent the initial registration information to MCI, you will receive a letter of welcome and complete instructions for use of MCI Mail. There will also be detailed announcements in the BRS BULLETIN on pricing and use through BRS, as well as complete customer support from both BRS and MCI once the project is underway.

Please take the first step with us now by verifying your registration in MCIR, so that you can be among the first with access to this exciting new feature.

Sincerely,

Diane Hoffman

Diane Hoffman
Director, Library Services

Reproduced with Permission

Information Intelligence

ISSN 0737-7770

ONLINE LIBRARIES AND MICROCOMPUTERS

George S. Machovec, Managing Editor

JUNE 1984
VOL.2 NO.6-7

NEWS & TRENDS

ELECTRONIC MAIL IN LIBRARIES THROUGH BIBLIOGRAPHIC ONLINE VENDORS

Electronic mail systems have been an effective form of communication in industry for many years. Libraries and information centers are becoming more active users of this technology in order to increase efficiency, speed service and lower costs.

Many bibliographic utilities have or are developing electronic mail subsystems for their clients in order to capture a part of this new market. Libraries have a broad range of choices for computer-based messaging systems through such options as online cataloging networks (OCLC, RLIN, UTLAS), packet switching networks (OnTyme II on Tymnet or Telemail on Telenet), dedicated electronic mail networks (e.g. Dialcom), online bibliographic vendors (BRS, and in the near future DIALOG), microcomputer networks, and many other institutional-specific systems.

Some of the newer entrants (now or in the near future) to the electronic mail market are the commercial online bibliographic utilities such as Bibliographic Retrieval Services (BRS), DIALOG Information Services (in late 1984), the U.S. Patent Office's CASSIS system (May 1984), SDC (in late 1984), and others. It is natural for these online vendors to enter this highly-competitive market since they already have an established customer base and existing computer systems to implement these services.

In order to optimize use and minimize costs of commercially available electronic mail networks, libraries will need to look closely at their needs and the audience to which they must communicate. It is very likely that several systems may be used by the same library for different requirements (e.g. OCLC/RLIN for interlibrary loan, ALANET for professional communications with the American Library Association, OnTyme II for interacting with SLA or CLASS members, BRS/MSGS or Dialmail for communicating or receiving information from a commercial bibliographic vendor, and facsimile for the transmittal of a document). The advantages and disadvantages of different types of messaging systems have been well documented in other sources[1,2]. One area which has not been well covered in the literature is a state-of-the-art report on what commercial online bibliographic vendors (non-cataloging) are doing in this respect.

more -

EDITORIAL BOARD

Joseph Becker, President, Becker and Hayes, Inc., Santa Monica, CA
James B. Dodd, Head, Users Services Div., Georgia Tech Libraries, Atlanta, GA
Miriam A. Drake, Asst Director, Library Support Services, Purdue Univ, W. Lafayette, IN
Allan D. Pratt, Professor, Graduate Library School, University of Arizona, Tucson, AZ

©1984 Information Intelligence Incorporated 0737-7770/84/$05.00/0

© 1984 - Information Intelligence Inc., P.O. Box 31098, Phoenix, AZ 85046 - (602) 996-2283 - Published monthly except July and August and mailed first class or overseas airmail. No part of this publication may be reproduced by any means without prior written permission of the publisher. Photocopying for internal use permitted only if appropriate fees paid to Copyright Clearance Center, Inc., or publisher. $5.00 fee applies to any copying of an issue whether complete or incomplete. Subscription rates: See last page of each issue for current rates.

Reproduced with Permission

Bibliographic Retrieval Services

BRS has offered electronic mail through its message switching system (MSGS) for several years. During the late 1970's they only offered communication with BRS headquarters through this option, but in the early 1980's they began to offer communication between BRS users by publishing a directory of T-numbers (each BRS password has a T-number) which uniquely identified participants (T-numbers were only published if approved by the subscriber).

In early 1984 BRS became an electronic gateway for accessing MCI Mail created by MCI Communications Corporation. This service combines electronic mail with paper-based communications so that messages may be delivered anywhere in the continental U.S. within seconds to several days depending on the type of service chosen. BRS subscribers may access MCI Mail computers by entering the MAIL database while in the BRS system. All MCI Mail messages which are to be delivered electronically may be "picked-up" via an electronic mailbox by the recipient. If the recipient does not have a terminal, the message is routed to the MCI postal center which is nearest the final destination for laser printing so that the item may be delivered by hand. Four-hour delivery is offered in 15 major metropolitan areas and overnight delivery is provided by noon the next day in over 20,000 cities.

DIALOG Information Services

During the fall of 1984, DIALOG is planning on introducing its Dialmail electronic mail subsystem. It is currently undergoing beta testing at several sites around the U.S. in preparation for its introduction. Dialmail is promising to be one of the most sophisticated computer-based messaging services on the market. Some of the features which are anticipated are: the ability to receive SDI prints electronically in your own electronic mailbox (as is now done with ABI/Inform on Dialcom), electronic conferencing and bulletin boards, sending messages to single or multiple addresses, sophisticated message editing capabilities, and the ability to edit and retransmit mail. CCITT protocols are being followed for message handling/addressing for future interconnection with other systems.

SDC Information Services

Not to be outdone, System Development Corporation will be adding their SDC electronic mail service during late summer to early fall 1984. Users will be able to send messages between themselves or SDC headquarters but the service will initially be limited to only U.S. subscribers. SDC will recommend that the messaging system be accessed from the ORBIT database to obtain the lowest connect-hour fee. Although the first version of the service will primarily provide simple messaging (no advanced features such as interconnection with other systems, or an electronic mailbox for SDI prints), SDC is planning to add future enhancements.

U.S. Patent & Trademark CASSIS Electronic Mail Subsystem

The United States Patent and Trademark online system, CASSIS (Classification and Service Support Information System), just introduced electronic mail in May 1984.

The system is very simple to use and will allow all Patent Deposit Libraries (52 at the present) to communicate between themselves and/or the Patent Office in Washington D.C. This will allow PDL's to obtain expert opinions directly from the main PTO. One of the unique features is that it is free of charge (however, only PDL's may use the service) and the PTO even absorbs the Tymnet charges.

more-

©1984 Information Intelligence Incorporated 0737-7770/84/$05.00/0

Reproduced with Permission

(Electronic Mail - cont'd)

Other Systems

Many other information utilities offer different levels of computer-based messaging. Dow/Jones News Retrieval offers MCI Mail in the same manner as BRS.

The Source and CompuServe have very active electronic mail and bulletin board systems although their use by the library community has been somewhat limited.

In a reverse manner, some firms which have specialized in electronic mail, such as ITT's Dialcom, have begun to offer public databases (e.g. ABI/Inform and the Official Airline Guide). Most other bibliographic utilities worldwide have or are considering electronic mail in some form or another.

Conclusion

Since libraries have a very wide range of choices for electronic mail, it will be crucial that they choose the most cost effective system for different applications. Some of the criteria in a wise choice include: does it reach the intended audience, does it offer the required capabilities, and is the price reasonable for the services offered.

Footnotes

1. Matthews, Joseph R. and Williams, Joan Frye. "Telecommunications Technologies for Libraries: A Basic Guide", Library Technology Reports. 19(4):335-394 (July/August 1983).

2. Machovec, George. "Microcomputer Networking in Libraries, Online Libraries and Microcomputers. 2(1):1-3 (January 1984).

Northwestern University reports that it made four sales of its NOTIS software during 1983. By the end of the year ten systems were installed and accepted and one was awaiting installation. In the period under consideration, gross sales revenues were under $1 million. However, in contrast with most of the other systems reviewed, this figure represents only software sales; purchasers acquire the appropriate hardware separately. All operational sites were using the local cataloging, global authority control and circulation modules. Serials control was the next most popular function, being implemented at eight installations. Four libraries were using the system's online patron access catalog module and one had implemented circulation control. One library has implemented the word processing module. The online interface to OCLC is used at three installations.
[Contact: Northwestern University Library, 1935 Sheridan Road, Evanston, IL 60201.]

Systemhouse Ltd., the Canadian company marketing the MINISIS system software, reports that as of the end of 1983 approximately 84 systems had been sold. The company estimates that 30 sales were made in 1983 and that all but 5 systems were installed and accepted by the end of the year. It is estimated that 25 of the systems are installed in North America, and that of 1983 sales, 6 were in North America. Most of the North American systems are used for library applications. Systemhouse estimates that, worldwide, MINISIS is used to support local cataloging at more than 60 sites, for global authority control at 40 sites, for acquisitions at 30, and for serials control and interlibrary loan at more than 5 sites. The 1983 sales for the library division of the company were between $1 and $4 million, and it realized an after tax profit for the year.
[Contact: Systemhouse Ltd., 2827 Riverside Drive, Ottawa, Ontario K1V 0C4 Canada.]

OTHER

Innovative Interfaces is an active participant in the local system market even though it does not supply fully integrated automated library systems. It offers interfaces between the utilities and CLSI systems and standalone acquisitions and serials control systems. The company reports that by the end of 1983, it had installed 80 interfaces, 13 acquisitions systems and 3 serials control systems. During 1983 it sold 18 interfaces, and 11 acquisitions and serials control systems. All but 2 of the systems were installed and accepted. The company's gross sales were between $1 and $4 million and it realized an after tax profit for the year.
[Contact: Innovative Interfaces, 2131 University Avenue, Suite 334, Berkeley, CA 94704.]

Regular readers of *LSN* will be aware that a number of new companies entered the local library systems market during 1983. By the end of the year some of them were still finalizing their first sales or installations. Among the companies in this position were:

- *Pennsylvania State University*—LIAS was operational at Penn State where the circulation, local cataloging and patron access catalog modules were in use. The RLIN interface and the word processing module were also being utilized and dial access from remote sites had been implemented. No sales were made during 1983, however one was finalized early in 1984.
- *Advanced Library Concepts*—one AdLib system had been sold but was still awaiting installation.
- *Electric Memory Inc.*—the EMILS software was being installed at test sites.

Electronic Mail Systems Update

Two years ago *Library Systems Newsletter* (Vol. 2, no. 1) described electronic mail service as the fastest growing technology in libraries. The intervening months have borne witness to that appraisal.

Reprinted from Library Systems Newsletter
4(4):30-32 (April 1984)

- As the largest broker of electronic mail service to libraries, CLASS (Cooperative Library Agency for Systems and Services) estimates that the number of its institutional subscribers has doubled in the past two years, bringing the total number of passwords to nearly 1,200.
- Only two months after beginning operation in January 1984, the American Library Association has assigned over 300 mailboxes on its new ALANET electronic mail service.
- The well-known Cleveland market research firm Predicasts, Inc. recently estimated that the number of messages sent via electronic mail in the U.S. will reach eleven billion by 1995, nearly twelve times the number in 1980.

The most common library applications continue to be interlibrary loan requests, reference referrals, meeting announcements, and conference or committee work. Online publishing, legislative alerting programs, shared files, and materials ordering are becoming more available. All are activities which demonstrate the benefits of electronic mail: instantaneous transmission, the ability to leave a message even when the recipient is not present, and the ability to send the same message to many people simultaneously.

Despite its popularity, there is still no consensus on the correct definition of electronic mail. Perhaps the most useful definition for the library user is that electronic mail is the transfer of messages, graphics, and text from one computer terminal to another using digital electronic transmission. Of the several types of electronic mail systems, node-to-node networks and computer-based message systems are the most common in library applications. As detailed in previous issues of *LSN*, the development of high-speed digital telefacsimile machines using non-impact printers could result in fax machines carrying a larger proportion of the electronic mail traffic among libraries in the years ahead.

In node-to-node transmission, terminals communicate directly. Each station, or node, must have a "smart" terminal capable not only of composing and transmitting messages, but also of receiving and storing them. Using modems, transmission is made over the telephone system. Node-to-node communication is generally most cost-effective in local networks where local phone service expenses are minimal. For longer distances, the terminals can be configured with special equipment and software which allow messages to be transmitted automatically overnight, taking advantage of late night phone rates as well as freeing the terminal for other users during the day. Node-to-node electronic mail has been in use in libraries in Montana since 1981. Ten libraries communicate directly with one another using Apple computers as terminals and Micro-Courier software. In spite of the long distances involved, the Montana State Library reports that node-to-node communication has proven to be an inexpensive alternative to surface mail for ILL, legislative updating and general messaging.

Five other Montana libraries have chosen to utilize an alternative approach: that of a computer-based messaging system. These libraries also use Apple computers and Micro-Courier software. However, the micros operate as "dumb" terminals to access ONTYME II, a service offered by Tymnet on its host computer. The host computer acts as a depository for messages, storing them until the user dials in to retrieve them. The terminals communicate only with the host computer rather than with each other. Because the users of such systems are often dispersed over great geographic distances, transmission generally takes place over a value-added network such as Tymnet rather than over long distance telephone lines. This results in lower communications costs over long distances.

The advantages of a computer-based messaging system over the node-to-node alternative include: access to greater text editing and storage capacity in the host computer, lower costs over long distances, ability to use any general purpose ASCII terminal, and the ability to send the same message to

Reprinted by permission of the American Library Association from Library Systems Newsletter 4(4):30-32 (April 1984); copyright © 1984 by the American Library Association.

American Library Association
50 East Huron Street, Chicago, Illinois 60611

Non-Profit
Organization
U S Postage
PAID
Permit No 3226
Chicago

D

Library Systems Newsletter
Published by Library Technology Reports

many recipients with a single command.

Of the available computer-based messaging systems, Tymnet's ONTYME is the largest. Acting as a broker for libraries, CLASS (Cooperative Library Agency for Systems and Services) provides a special version of the system called ONTYME II, which includes an interlibrary loan messaging format. It recently developed an interface also allowing ONTYME II users to communicate with libraries using TWX. CLASS currently has over 1,200 users, many of them library network members such as the Montana libraries. The standard rates for ONTYME II include an annual subscription fee of $100 and a monthly maintenance charge of $10. Connect time costs vary from $2.85 to $5.75 per hour.

The American Library Association's ALANET system, which was officially launched in January 1984, offers libraries an alternative computer-based messaging system (see *LSN*, Vol. 3, no. 10). Along with ILL, reference referral, Association committee work and general message capabilities, users will have access to new ALA data bases for current information on legislation, conferences, and publications, as well as external data bases. Subscribers will be able to communicate directly with both the Chicago and Washington Association offices and with a number of library suppliers such as H.W. Wilson, Blackwell North America, and University Microfilms. The Washington office of ALA is planning a comprehensive legislative alert program, and several newsletters will be available online, among them the *ALA Washington Newsline* and the *ALA News Bulletin*.

Computer services for ALANET are being provided by ITT Dialcom of Silver Spring, Maryland. Unlike ONTYME II, ALANET will allow dial-up access over several of the major telecommunication networks, including Tymnet, Telenet, Uninet, and TWX. Except for the initial $30 subscriber fee and a $7.50 monthly account maintenance fee, subscribers will be billed based on connect time. Rates range from $17 to $20 per hour in prime time, and are $4 lower in non-prime hours.

As increasing numbers of libraries take advantage of the benefits of electronic mail services, competition will become keener as vendors [illegible] market dollars. The result is likely to be continued improvement in the systems available at reasonable cost.

107

ELECTRONIC MAIL
Selected References

DeJohn, Bill. "Use of Electronic Mail for ILL." Information Technology and Libraries 1 (March 1982) 48-51.

Electronic Mail and Micro Systems. Newsletter. Bi-monthly. International Resource Development Inc., Norwalk, Conn.

Givens, Beth. "Montana's Use of Microcomputers for Interlibrary Loan Communications." Information Technology and Libraries 1 (September 1982) 260-4.

Matthews, Joseph R., and Joan Frye Williams. "Telecommunication Technologies for Libraries: A Basic Guide." Library Technology Reports 19 (July-August 1983) 335-96.

Michalak, Thomas J. "The Application of Centralized Text Editing and Electronic Mail Systems in Libraries: The CMU Experience." Library Hi Tech 1 (Spring 1984) 37-41.

Oliver, Dennis. "Deciphering Electronic Mail: Connecting and Interconnecting Services." Library Hi Tech 1 (Fall 1983) 29-32.

Porter, Peggy. "'Dear PP05': Interpersonal Communication and the Computer: Entering a Brave New World." Library Hi Tech 2 (#1, 1984) 23-27.

Schardt, C. M. "Electronic Mail Service: Applications in the Pacific Northwest Region." Medical Library Association Bulletin 71 (October 1983) 437-8.

Strehlo, Kevin. "Mail Call, Mail Call!" Personal Computing 7 (December 1983) 126-33.

Trudell, Libby. "Communicating With the Online Industry: How an Information Broker Uses Electronic Mail." Online 7 (November 1983) 60-4.

_____. "Electronic Mail Systems: Communication Networks for Libraries." Library Hi Tech 1 (Summer 1983) 41-3.

_____. Options for Electronic Mail. White Plains, N.Y., Knowledge Industry Publications (forthcoming).

J. Rosenberg
7/84

108